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ORIGINAL ARTICLES.

THE DIAGNOSIS AND TREATMENT OF POTT'S DISEASE OF THE SPINE IN THE ADULT.¹

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It has often been stated in public discussions that Pott's disease of the spine as it occurs in the adult is a most inveterate and intractable disease to treat, and that the patient submits very unwillingly to any form of restriction. It has been further stated that apparatus is not so available as it is in the disease occurring in childhood, and that when an abscess appears the prognosis is necessarily grave. Very few of the textbooks dwell at length on this subject, and for this reason I have made an effort to collect a few typical cases that will illustrate the ease with which the disease can be managed by adherence to principles which govern us in the management of the affection in childhood and adolescent life.

Before proceeding to the narration of cases, I should like to present some points for discussion in the diagnosis of Pott's disease, and to illustrate these features by clinical records. In selecting material for illustration, I find complete notes of a number of lesions or diseases that simulate Pott's disease, such as irritable spine, with neuroses of hip or knee, railroad spine, hysterical spine, multiple osteo-myeletis, in which the spinal column participates in the disease, fracture of the spinal column, rheumatic spondylitis, and malignant disease of the spine.

I. NEUROSES OF THE SPINE.

In a fair proportion of the adult patients referred to me for an opinion, or seen with the family physician for some obscure spinal lesion, I find an irritable spine. The pain in the back has usually been an annoying feature, a faulty attitude in standing or walking, the tenderness on concussion, have all conspired to bring about a degree of anxiety, which has for some time distressed the patient, and which finally demands of the attending physician an examination of the spinal column, and occasionally ends in a diagnosis of lateral curvature. Running the finger over

the spinous processes, then over the lateral masses, he detects points of tenderness which are at least suggestive, and he naturally finds a tuberculous disease of the bodies of the vertebrae, or, what he more frequently feels called upon to name it, a traumatic Pott's disease of the spine, because of a history of injury. If he were familiar with the more recent literature of Pott's disease of the spine he would attach a different significance to the tenderness. He would naturally exclude disease of the body of the vertebra, because he would be unable to trace any connection between the suspected body and the skin so far removed, or processes spinous or transverse. The family physician is more easily annoyed, however, by the history of a fall or a strain of some kind, and not having acknowledged his firm belief in all the teachings that have grown out of the discovery of Koch, he is loath to accept any other theory than the traumatic. I offer the foregoing explanation as one reason why it is so difficult to make a diagnosis. The chief reason, however, is the lack of confidence in one's opinion, the lack of courage in one's convictions and the failure to make a thorough examination.

Again, the prominence given to the reflex nature of many of these diseases has tended to impair the observer's confidence in his own findings, and he looks for some cause in the muscles of the eye, in the functions of the ovaries, or in the condition of the genitals.

CASE I.—Traumatic neuroses of the spine. Miss T., aged twenty-two, from one of the Northern towns in this state, was referred to me by Dr. W. T. Bull, April 29, 1895. I obtained the following history: Eight years prior to this date the patient fell from a second story window in a fit of somnambulism, and on being lifted from the ground, complained of her wrist. With the exception of a little general soreness she complained of nothing else. Nearly six months later she had pain in the back, and during the following year had peculiar sensations like that of snakes crawling along her body. For the relief of this she would resort to various kinds of plasters. Three years later, in the spring, she had an attack of neuralgia, which her local physician regarded as an attack of the grip. On recovering from this she found that the back was much more painful. It was fully three years after the initial neuralgia and two years prior to the date of my first observation, that her distress was so great as to require for its relief a plaster of Paris jacket. Her report was that this did give relief, and that she was comfortable

¹ Read by title at the ninety-first annual meeting of the Medical Society of the State of New York, Albany, January 27, 1897.

as long as she wore the jacket. On one or two occasions it was removed by way of test, but her pains became intolerable.

Although the menses were not normal she was regarded by the family physician as free from any disease of the uterus or ovaries. She had complained of pains around the knee, not directly in the joint, and also in the thigh and calf muscles. She walked with a decided limp. In my examination I found the left knee from a quarter to a half inch smaller than its fellow, and much tenderness of the skin and the tissues lying directly thereunder. The thigh and calf presented the same tenderness. There was no fluid in the joint; she could extend perfectly, and could flex beyond 90° without pain or discomfort. The spinous and transverse processes in the dorso-lumbar regions were especially sensitive. I was compelled to make my examination while she was, partially suspended in the swing, because she dreaded to stand even without the jacket, assuring me that if this were done she suffered pain in the back for hours. I found a little fulness in the dorso-lumbar region, or rather an obliteration of the normal curve. The column I could move quite freely, if carefully done. The tenderness was quite marked in the distribution of the nerves, as well as in the ovarian region. I had no difficulty in making a diagnosis of a neurosis of the spine with involvement of the knee, and proceeded to treat her accordingly. I made a light steel brace which could be removed several times during the day, and resorted to the cautery for the relief of pain. Within a fortnight she was very much relieved, and could go without her brace for a part of the day. About this time she returned to her home, and when I saw her again, December 19, 1895, there was little or no tenderness on concussion, none on lateral motion, but rather sharp tenderness in the lower dorsal region. She reported to me another injury of recent date, but her brace protected her and she came off with very little harm. In a letter under date of May 20, 1896, I learned that she had discarded the brace, had been wearing an ordinary corset for the past two months, had very little backache, and was delighted with the result of treatment. This case was used to illustrate the apparatus in a paper on the "Management of Irritable Spine," read before the Practitioners' Society, April 3, 1896, and published in the *Medical Record*, May 9th. In further illustration of this part of my paper, I would refer my readers to the communication to the Practitioners' Society.

While I am not able to give all the points in differentiation between an irritable and a hysterical spine, I may present an example of what I take to be hysterical spine.

CASE II.—In September, 1884, a gentleman, aged twenty-seven, applied to me for a plaster of Paris corset, stating that he had worn these jackets since 1877. I found him a robust hearty-looking individual, without any marked bony deformity. Indeed, I had some difficulty in making out any deformity. There was a certain amount of rigidity in the dorso-lumbar region, but he declared that it was simply impossible

for him to get on without support. When twenty years of age, seven years prior to the date of my first note, he suffered from pains in the lower limbs and a slight spinal stiffness. He knew of no cause and did not attribute his disability to any injury. Under the advice of a distinguished surgeon in this city he got a plaster of Paris jacket, and had continued that treatment. I suggested to him a leather corset, which would amount to nothing more than a broad leathern belt about his loins, and made one for him. Six or seven years later I examined him again, with negative results. He was still wearing the leather jacket, and had, at times, worn one made of canvas. It was a matter of surprise to me that he persisted in this support, or regarded himself as at all unwell. All of his organs were pretty thoroughly examined, with absolutely negative results. This was June 5, 1891, and in May 17, 1892, he developed certain neuroses involving the genitals; indeed, I found a slight hernia on the right side and applied a truss. He was so much disturbed mentally that I referred him to my friend, Dr. Sachs, who wrote me that this was a case of somewhat aggravated sexual neurasthenia, with weakness of the genital organs. Suffice it to say that he got relief, and as late as December 12, 1895, I made him two or three canvas belts, which he uses to this day.

The difficulty of making a pathological diagnosis in a case of this kind is not to be under-estimated. If this were a case involving a suit for damages, one would naturally say that it was purely hysterical, and that the patient would get well just as soon as a verdict was rendered, but this gentleman has never been able to assign any cause to his trouble; has never nursed any suit for damages.

We are so prone to attribute most of the cases of railroad spine to hysteria, that I shall present one or two by way of illustration.

CASE III.—On March 10, 1891, Dr. J. A. McCreery of this city referred to me a man, aged thirty-two, who was severely injured in a tunnel accident two and a half weeks prior to that date. In the accident he fell backward, striking on an iron casting. He was able to walk about for three or four hours after the accident before being compelled to seek rest. From that time he complained of more or less pain, and was unable to walk without considerable effort.

I found him well developed but quite distorted in body. There was an irregularity of the spinous processes of the last dorsal, and the first, second, and third lumbar vertebræ. In this region he was exquisitely sensitive. The erector spinæ muscles on the left side were more prominent than those on the right. He stooped forward and the natural position was a slightly bent one, and when he attempted to stand more erect this little irregularity of the spinous processes still existed. There was pain on concussion and a slight antero-posterior curve in the region just mentioned. He was also sensitive in the iliocostal space, and attempts to turn himself from side to side caused pain, so he stated, and so he manifested by his expression. There was nothing in the iliac fossa, except apparent ten-

derness and this was superficial. Hyperextension of the thigh was made easily on both sides, but there was more psoas resistance on the right. There was no impairment of functions at the hips or the knees, but tenderness in the left iliocostal space, as compared with the right. I recognized also resistance in this region to the pressure of the fingers, and could easily map out what seemed to be a distinct tumor. I was, however, unable to satisfy myself of the existence of any bone lesion, and advised the cautery quite freely in the sensitive region. Six days later he reported and I could note about twenty-five per cent. improvement, and advised him to resume work. Dr. McCreery had found him, a day or two after the accident, doubled over very much, and quite unable to work, so he applied a plaster of Paris jacket, which afforded some relief, and at the doctor's suggestion, I renewed it on the 20th of May. Two days later the patient reported himself as greatly improved; could walk more nearly erect, and did not have so much pain or distress in the posterior parts of the thighs. He had already begun a suit for damages, and as requested, I gave a certificate on the 25th of June to his attorney, to this effect: I had regarded his case as one of contusion of the back and loin, but he had not responded as promptly to measures of relief as I had hoped he would, and I now found him suffering from symptoms that pointed toward Pott's disease of the spine, although I was unable to demonstrate the conditions. I gave it as my opinion that he would require protection treatment for at least eighteen months or two years, and that I was unable to state positively what the outcome would be. The treatment adopted was very thorough and I kept him well supported in jackets, employing the cautery two or three times a week, and yet, by the 8th of September, 1891, I was unable to confirm the diagnosis and to give a favorable prognosis. It is only fair to state that a settlement of the suit had not been reached. On the 15th of September, 1891, I reported his case in a paper: "The Early Diagnosis, the Best Treatment in Pott's Disease of the Spine," read before the Canadian Medical Association in Montreal.

From July 5, 1895, I saw him occasionally, more frequently during the years 1891 and 1892. I employed by way of treatment, the corsets, cautery, and potassium iodid. In March, 1892, he had some peculiar neuroses, such as twitching of the face, pains in the lower limbs, cold feet, cold ankles, etc. About this time he effected a settlement with the company and went into business. A few months after this it was reported to me that he was doing well, that he was working pretty much all day, and that he was able to get on without the support of the plaster jacket, but with a corset heavily reinforced with steel. When I examined him last, July 5, 1895, his spinal column was still irritable and sensitive. He had no longer any reason to expect any relief from the company. Indeed, he was not embarrassed by a lawsuit. During the past year I have seen him but have not made an examination. He is still wearing some sort of a support, but is attend-

ing to his business and will probably make a good recovery.

2. RHEUMATIC SPONDYLITIS.

In employing the term spondylitis, I wish it understood that the lesion is a periosteal thickening along the lateral masses and involving the foramina of exit for the spinal nerves. It may involve more than the foramina by extension, and produce ankylosis, more or less complete, of the column. The periostitis is usually rheumatic. The term "spondylitis" was used a great many years ago by Dr. Julius Braun, who lived at one of the bath establishments in Europe, and who wrote a very elaborate article on this subject. The cases he reported had been regarded as cases of irritable spine, but by adopting antirheumatic treatment, coupled with vigorous hydrotherapy, he was enabled to effect a cure in a large percentage of his patients. The process, therefore, is not a tuberculous one, and does not involve the bodies of the vertebra.

CASE IV.—A gentleman, fifty-two years of age, was referred to me by the late Dr. Alfred L. Loomis on November 15, 1890. His symptoms dated from October, 1889, about which time he had a severe cold, and was very active in business. Two months later he was severely chilled while traveling in a cold car, and suffered at once from rheumatic pains. Indeed, he was confined to his room for a period of two weeks. A month later he had an attack of the grip, and was treated for rheumatism. During the following spring he sought relief at Clifton Springs, then at Fortress Monroe, and later at Nantucket. During the summer he got some relief, but, returning to his home, was in a wreck on the railroad, and was considerably bruised. It was fully two months after this that he had a return of his old symptoms. He complained, in addition to this, of a girdle pain just below the mammary line. Dr. Loomis himself looked upon the case as one of rheumatism, but for the spinal symptoms referred him to me for treatment. When I examined him he was in fair health, but walked with his head bent forward, and very carefully. He took short steps, and seemed to be continually guarding against concussion or jar. There was a prominence of the spinous processes of the eighth and ninth dorsal; there was tenderness on pressure and on concussion. There was a point of tenderness over the vertebra prominens, but he was able to move his head very freely, and pressure against the anterior portions of the vertebrae, through the pharynx, did not give rise to any pain. I was a little uncertain myself as to the nature of the disease for which he sought relief, but there were enough symptoms and signs present to warrant me in providing a fixation apparatus, and in employing the cautery. A few days later I found an area of soreness and tenderness along the outer side of the leg, just below the head of the fibula. On December 12th I saw the patient in consultation with Dr. Loomis,

and both he and I questioned the existence of Pott's disease. The deformity, at this time, was not so marked. We agreed upon the potassium iodid and cod-liver oil. The brace afforded him some relief.

I heard from him by letter the latter part of January, 1891, and the report was excellent. On the 4th of March he was much improved, but he still complained of pain about his left limb and foot. The fulness in the spinal region, which had been noted at the time of my first observation had entirely disappeared, but the tenderness persisted. The cautery was employed, and instructions were given to have it continued at his home. I saw very little of him during the year 1891, but on several occasions I found a decided improvement. He was unable to dispense with the brace, but in 1892 was about as well as ever. He called upon me October 6, 1893, to report himself as perfectly well, and able to travel very long distances. I have heard from him from time to time, up to the present, and he still continues well, so I feel positive about the diagnosis.

CASE V.—A gentleman, thirty-seven years of age, was referred to me by Dr. W. M. Polk, during the close of the past year. Two years prior to this he began to have some trouble with his back. His urine was acid and contained uric acid in large quantities. A year after the beginning of these symptoms he was rather stiff in the back, and walked like an old man. He was at this time examined by a distinguished orthopedic surgeon of this city, and on the strength of the rigidity of the column, and marked deformity, the diagnosis of Pott's disease was made, so the patient reports. A grave prognosis was given at the time, but treatment was not accepted. Instead of using the apparatus, he went to Carlsbad, where he obtained much relief. During the past year he has improved much, has very little deformity, holds himself much straighter, and attributes much of his relief to a course of massage. I found a slight anteroposterior curve from the mid-dorsal to the third lumbar vertebra, but it was not angular. There was no tenderness on concussion; no pains in the course of the limbs. There was no reflex spasm in the psoas or iliacus when hyperextension of the thighs was made. I was unable to make a diagnosis of Pott's disease, but rather of rheumatic spondylitis, and later reports seemed to confirm it.

In arriving at my diagnosis I, of course, had the benefit of his history, and of his amelioration, without orthopedic treatment. Some cases present such marked evidences of rheumatism about other joints that one can very easily make a diagnosis where the spinal column is involved.

3. FRACTURE OF THE SPINE.

I think one is seldom at a loss to make a diagnosis in a case where a fracture has occurred, because of the history of great violence, even where the resulting deformity presents a *bosse* characteristic of Pott's disease. For example, take the following:

CASE VI.—A stout, robust-looking man, thirty-five years of age, presented himself at my clinic, at the College of Physicians and Surgeons, on the 27th of April, 1896. The history he gave was that up to the latter part of 1891 he was perfectly well and quite active. In trying to couple some cars he was caught between them and suffered a slight injury, but there was no signs pointing to injury to his back and a month later he was at work again as night watchman. He continued well until the 19th of September, 1894, when he was thrown from a carriage and fell on his back. The fall dazed him for about five hours, during which time he was practically dead. He was removed to the hospital, but there seems to have been no diagnosis made. The patient himself states that his back was not examined, but he remembers distinctly that as soon as he recovered consciousness his limbs were absolutely palsied as to motion and sensation. The line of anesthesia was just below the umbilicus. There was retention of urine, and the bowels were moved by enema. It was fully three months before he was able to tell when he had a movement, except by the odor. Bed sores formed during his treatment, which extended over a period of six months. The reflexes became exaggerated during convalescence, and about seven months from the time of injury he was able to stand. Three months after the injury, however, he began to have control of his bladder and rectum. It was fully a year before he was able to walk about, and then the limbs presented a good deal of tremor, with reflex spasm, which was chiefly confined to the left lower extremity. He never wore any apparatus and never had any treatment directed to his back.

At the time of my examination there was a *bosse* extending from the tenth dorsal to the sacrum. The outline of this *bosse* corresponded exactly with that of deformity after Pott's disease. There was no spinal tenderness, he was free from pain, and there was no tenderness on concussion. The left foot was held in marked equinus, toes in hyperextension, and when he bore his weight on this limb it rested on the distal ends of the metatarsal bones. He could freely flex and extend the right thigh and right leg, but was unable to flex the left thigh unless he grasped the posterior part of it with the hand, and proceeded to "unlock" himself. After this manœuvre he could flex his thigh up to 90°, and could extend, but in the act of extension the muscles were thrown into a state of tonic spasm. From a number of other similar symptoms it was concluded that there was some pressure on the nerves supplying the left lower extremity, and that he had a spastic monoplegia due to compression.

The course pursued by the paraplegia in the case just reported, does not differ from that in the majority of cases, although the prognosis must depend upon the extent of the cord lesion. It is a good plan, in my judgment, to attempt reduction of the deformity at once under an anesthetic, if need be, so that the pressure symptoms may be avoided or promptly relieved. I do not enter into the question

of operation, although I firmly believe that an operation done very soon after the injury is productive of enormous good to the patient.

4. MULTIPLE OSTEOMYELITIS, INVOLVING SOME PORTION OF THE VERTEBRÆ.

One occasionally meets with cases of multiple osteitis where the shaft of the long bones is involved, and where one seldom finds any involvement of the vertebræ. The inflammatory process may take in one or more ribs near the vertebral articulation, and when this does occur it is quite rational to suppose that the vertebræ themselves will be involved. The following case is illustrative:

CASE VII.—A medical gentleman, aged forty, was referred to me by the late Dr. Loomis, on the 24th of November, 1894, and I made a diagnosis of non-deforming Pott's disease in the dorso-lumbar region. This diagnosis was based on the fact that he had suffered two or three years with pains and aches, referable to the spine and the nerves, but I did not take into account a possible neurasthenia. He had a stiff spine, which was tender, and the pains were referred to the course of the nerves. It was exceedingly painful for him to turn over in bed or to get up and down, although there was no pain on concussion. The movements of the column from side to side or forward and backward gave him pain. I advised a plaster of Paris corset, supplemented by the use of the cautery. He did not come under treatment at this time.

It was reported to me on July 10, 1895, that an abscess had appeared over the head of the tibia, right side, and that an operation had been done in March for the relief of this abscess. The sinus was thoroughly curetted, but was not relieved. Indeed, two sinuses existed at this time. There was already an abscess in the posterior femoral region and also in the left lumbar region. I had an opportunity of examining him on the 17th of July, at his home in New Jersey, when I found his right leg flexed at an angle of 90°. There was a large ulcer on the outer side of the fibula, with the bone almost in sight. It could easily be recognized by means of the probe. Indeed, the probe passed the denuded bone of the fibula and enabled us to discover denuded bone in the head of the tibia. The knee-joint itself seemed to be normal so far as appearance went, but there was an abscess above the knee, along the outer and posterior aspect, already discharging. Just below the anterior superior spinous process, and on the outer side of the ilium, there was a small tumor, which had lasted, they reported, for some weeks. The hip-joints seemed normal. Over the sixth or seventh rib, right side, about the middle, was a sinus which led to denuded bone. In the left ilio-costal space, and a little to the posterior border of it, there was a good-sized fluctuating tumor. The spinal column still presented no deformity, but it was quite stiff. I learned at this visit that he had worn a spinal brace, applied by an orthopedic surgeon, for a pe-

riod of two months, but on advice of his family physician it had been discarded.

On August 2d, assisted by Dr. Bull, and his physician, Dr. Terriberry of Paterson, I exposed the head of the fibula, right side, and removed it by means of a chisel. A focus of disease was found in the head of the tibia, and this was thoroughly curetted until hard bone was reached. This focus did not encroach upon the articular cartilage; indeed, there was healthy bone between the focus and the cartilage. Sinuses and abscesses in this locality were pretty thoroughly curetted and scraped, while the abscess above the knee was treated in the same way. The sinus over the rib was enlarged, when it was found that fracture had taken place at some time, but that union had not followed. The rib was resected for about one inch. The lumbar abscess was aspirated and about 4 ounces of pus evacuated. Further operative procedure was withheld for the time being. The patient rallied very well, and about two months later returned to his home.

October 3d, a second operation was performed, with the same gentlemen present, and on this occasion I made an incision over the lumbar abscess, just over the ilio-costal space, extending it down into the sac, which contained a moderate amount of sero-purulent matter. The track of this abscess extended upward toward the lateral masses of the vertebræ, to a point complained of as the location of a slipping sensation. The latter was well explained by extending the incision upward several inches, across the spinal column, where I finally reached necrotic bone about the articulation with the spinal column of the eighth and ninth ribs, where the ninth rib was found extensively eroded. After removing the periosteum which remained on the anterior aspect, I cut away the rib, leaving only about one-third of the entire bone. When the portion resected was removed, a purulent sac was found in front of the rib, and this was thoroughly cleansed. The articular facets and transverse processes were eroded and crumbled easily, so that by curettage, drainage was found to be pretty thorough. The incision was carried up still further, and the eighth rib, at the articulation, was treated in the same way. The neurosis involved the posterior segments of the vertebræ, especially those on the left side. The dura was not opened. It was noted on the 15th of October that he had had no temperature whatever since the operation, that his wounds were healing, and that he was moving his knee much better. During the latter part of the year, and indeed throughout the greater part of 1896, the patient made slow but steady progress.

Last summer the abscesses about the knee were so extensive that the limb was amputated about the middle of the thigh. The wound healed within a short time and he seemed to improve. In December, however, he presented signs of pulmonary tuberculosis, and shortly before Christmas he expectorated a large quantity of pus, which gave him great relief. The pulmonary signs proved to be those of an abscess, extending from his spinal column into his lung, through which it broke quite recently. It is reported that he is

doing very well, is sitting up, but that two or three sinuses over the spinal column are still discharging. This case was indeed a very instructive one, apart from the keen interest felt in the case by his professional brethren.

The osteitic process, of course, has been proved to be tuberculous in nature, but it is curious to note that the compact structure of the bones was involved rather than the cancellous portion. Those of us who made a diagnosis of Pott's disease of the spine were in error, as the process did not involve the bodies of the vertebræ. It is perhaps to be regretted that radical measures were not undertaken sooner, but with the multiple lesions, it is quite difficult to see now how all of these foci could have been thoroughly removed. The two operations which Dr. Bull and I performed were certainly radical, but we were obliged to leave one or two abscesses, which have since disappeared. The presumption therefore is that the bacilli were induced to colonize in other parts of the body, and that our efforts have been of little avail.

5. MALIGNANT DISEASES OF THE VERTEBRÆ.

In approaching this subject I feel that it is difficult to lay down any hard and fast rules by which one may recognize malignant disease in its early stages. It is true that the disease, as a rule, attacks most frequently the female sex, and that the pre-existence or co-existence of a mammary tumor is sufficient to put us on our guard. Sometimes, however, the existence of this tumor is overlooked. The persistence of the pains in the course of the nerves which pass through the region involved, ought to, at least, suggest malignant disease, even when there is no mammary tumor to guide us. There are so many cases, however, where the tumor has been removed, and where a long period has elapsed between the removal of the tumor and the appearance of the first spinal symptoms, that one hesitates to make a diagnosis of cancer of the vertebræ until an opportunity has been afforded for several examinations. A few cases may serve as illustration.

CASE VIII.—A lady, aged forty-five, came under my care on the 21st of July, 1893. I found her in bed with a pretty sharp deformity in the dorsal region. There was paraplegia of recent origin, and I made a diagnosis of Pott's disease. She told me that two years prior to the date of my examination, she had a sudden jar by falling down one flight of stairs. For two or three days after this there was a little stiffness, which finally passed off. It was a year later that she began to complain of pain in the right side, in the neighborhood of the free ribs, but the pains did not extend down the thigh. She did not think enough of these pains to consult a physician, but continued with her household duties until she found it rather difficult to get about. She was not able to clear the floor well with her feet. It was only recently that she had seen a physician, but her back was not examined and her pains were

regarded as rheumatic in nature. She was in bed for a period of sixteen weeks, under treatment for rheumatism. She got up and tried to walk but the pains were so great that she took to her bed again, and five days before I was called she had lost the use of the lower limbs. It was exceedingly difficult to make a satisfactory examination by reason of the great suffering induced by attempts to move from side to side in bed. The lower limbs, as before stated, were completely paralyzed. She had incontinence of urine and of feces, to a moderate extent. There was a boss in the mid-dorsal region, about an inch in height. Her abdomen was large and somewhat distended.

Admission to the hospital was soon secured, and with considerable difficulty, a few days later, I succeeded in applying a plaster of Paris jacket. While in suspension the deformity receded to a marked degree. That afternoon she began to move her toes and the relief to the paralysis was most pronounced. On the following day she was able to extend both feet and toes, and was very comfortable in the jacket. The urine, however, was retained, and had to be drawn by catheter, the pains persisted and I still did not give to the symptoms the proper interpretation. On the 4th of August, 1893, I made a plaster of Paris corset, and after the suspension the urine was voided naturally. The specific gravity was low, there was no albumin, no sugar. At this time she was taking pretty large doses of the potassium iodid and the cautery was employed every other day. The hospital treatment was continued throughout the summer during my absence, and the limbs improved very markedly, but the patient was still fretful and irritable at the close of the season and complained of great pain. I then began to surmise that she suffered from malignant disease of the spine, although there had been no breast tumor of any kind, nor had she been subjected to any operation. She was discharged in November, 1893, and gradually failed, dying on the 5th of December.

It is interesting to note that in the latter part of November she had a most unquenchable thirst, drinking large quantities of water, and still not satisfying her thirst. She had polyuria and her pains were so great that large doses of morphia were required for her relief. Autopsy was not secured.

CASE IX.—An unmarried lady, aged thirty-two, from Denver, consulted me July 26, 1894. She had been referred for Pott's disease of the spine, and the symptoms had extended over a period of twelve months. She had travelled a good deal in search of relief. At the time I saw her I was able to make a very careful examination, learning that six months prior to this date a nodule was removed from the right breast, which operation included the axillary glands. The report brought me was that microscopic examination showed the tumor to be benign, but I questioned very much the truth of this, inasmuch as the pains she complained of were so excruciating. I was willing, however, to treat her symptoms, and did my best to give her relief by means of a jacket, cautery, and the milder narcotics. The case, however, progressed from bad to worse, and on the 6th of De-

cember I referred her to Dr. Wm. B. Coley for treatment by erysipelas toxins. Two or three weeks later the doctor reported that he had succeeded in alleviating the pain, but that the disease seemed to be advancing and that the case was practically hopeless. She died some weeks later and the case has already been reported by Dr. Coley.

I had no difficulty in making a diagnosis in the last case, but the following taxed my diagnostic powers to the utmost, and I am free to admit that I made an error. Just why I should have done so I am at a loss now to understand, because the signs were unmistakable.

CASE X.—A lady, aged thirty-two, was placed under my care on the 13th day of October, 1895. The history she gave was the following: Four years before, at the time of her marriage, she was hearty, well-nourished, and in excellent health. About a year before her marriage she had the grip, followed by pneumonia, from which she made a slow but satisfactory recovery. Twenty days after her marriage she had a return of the grip, which was very severe, lasting two weeks. Five months later she had an attack of what was called appendicitis. This was in the summer of 1892. During that fall and winter she was comparatively well. In the spring of 1893 she began to have trouble with her nose and antrum. A number of polypoid growths were removed. She suffered much from what was called asthma or bronchitis during the spring and summer, extending even into the winter. In the spring of 1894 she was much improved. In the fall of 1894 her attacks of asthma recurred. Up to this time she had had no pain in the back. Her menstrual functions had been regular all the while, but she suffered much from constipation. Her asthmatic attacks proceeded during the winter of 1894 and 1895.

On the 15th of March, 1895, she had pain in the abdomen, girdle-like in character. Following this came long periods when she was much nauseated; sometimes for three or four weeks off and on. During these periods her bowels were obstinately constipated and she suffered from intercostal neuralgia. In the latter part of April a large mass of feces was removed by mechanical means. In May an attempt was made to walk, but she was quite stiff, and would complain bitterly of pain in the back, which pain was also referred to the hips. In June she had much difficulty in climbing stairs. The plaster of Paris jacket was used during the summer, but the suffering was unrelieved. She became more and more emaciated and at the time of my examination her condition was truly pitiable.

She was quite hysterical, and it was difficult to secure an examination by reason of the great tenderness on any movement, active or passive. The spinous processes of the upper dorsal vertebrae were unusually prominent, and there was a general anterior curvature of the spine in the dorso-lumbar region, but no distinct knuckle. The limbs were much emaciated but retained their power. I suspected Pott's disease

of the spine, and although I found the ilium and ribs rather irregular and tender on pressure, I attributed these conditions to extreme emaciation. My diagnosis was extreme neurasthenia, with aggravated irritable spine. It occurred to me that a trained nurse was what she needed more than anything else, so I provided one, and suggested that a local physician be called. She remained under my observation until the 1st of December, when I met Dr. Van Santvoord, to whom I had referred the case. The doctor had previously written me after his first visit, which was on the 19th of November, as follows:

"I suppose that a tumor of the breast, lasting eighteen months, softened nodular ribs, and thickened pelvic bones, are not likely to result from anything but malignant disease, probably carcinoma."

When we met at the bedside I recalled the points which Dr. Van Santvoord had mentioned in his letter, with the exception of the breast tumor. I had not examined the breasts, nor had the patient or her husband at any time ever suggested to me that there was anything wrong about these organs. I learned on this date that this tumor had been under observation for a long while, and that its removal had been advised. I had nothing to do but admit my error. The patient died on the 12th of December.

CASE XI.—With this case fresh in my mind I was called to see a patient, a lady, aged twenty-eight, on the 25th of August, 1896, in order that I might give treatment to a deformed spine. There was a well marked boss in the dorsal region, and a history that the mother of the patient had, for several years, an epithelioma of the nose, that the grandfather had died of some "cancerous affection." The patient herself had had a weak back from girlhood, and had complained more or less from time to time. She was married at fifteen years of age, never bore children, and two years prior to the date of my seeing her she was cured for some uterine disorder. At the same time the os uteri was dilated. She told me that at this time a small nodule appeared in the right breast, which had gradually increased, and which had been pronounced by her physicians to be carcinoma. In February, 1895, the back began to be painful. She remained in bed from March until July, under treatment for rheumatism. She sailed for Europe in July, but placed herself under treatment in Boulogne, France, shortly after her arrival. The spinal deformity was recognized and a plaster of Paris jacket was applied, which jacket gave her relief. When I made my examination there was a tumor in the right breast, involving pretty much the whole of the organ. It was nodular and hard while the nipple was retracted. The axillary glands were not enlarged. She had a marked kyphosis extending from the mid-dorsal to the lumbar vertebrae. This deformity had been present for about six months. Dr. George T. Harrison saw the case in consultation with me and agreed as to the nature of the trouble. I made a diagnosis of malignant disease of the vertebrae, probably carcinoma. She was fitted with a corset jacket, and went into the country, returning about the 23d of December, and when I saw her on the 25th there

was a rapidly increasing paralysis of the lower extremities, attended with retention of urine. On the 19th, numbness invaded the lower limbs, and the pain was aggravated. I learned that she had been treated by a Boston physician with some cancer remedy for over a year. Her case was complicated also by pregnancy, which made it all the more difficult to manage, even if there had not been any malignant disease. There was nothing really to do for her paralysis. She died on the 30th of September.

6. TREATMENT OF POTT'S DISEASE.

I propose, under this heading, to present a few cases representing different types of the disease, and will leave the cases to speak for themselves. It will be seen, however, that the details of treatment are very simple, *vis.*, to secure good fixation of the column, to prevent an increase of the deformity, and to rely upon exercise and out-of-door life as much as possible.

CASE XII.—A gentleman, aged thirty, was referred to me December 13, 1894, by Dr. M. Allan Starr. He reported that for five years he had walked peculiarly and had been awkward in his gait. His friends had observed a wasting of the limbs. In the spring of 1894, he had typhoid fever, and while convalescing complained of a soreness in the iliac fossa, left side. He made a good recovery, and it was not until within three weeks prior to his visit to me that he complained of pain in the back and pelvis. The pain was most marked in the pelvis, and especially on the right side. Riding in a wagon of any kind added to his discomfort. If he walked about he was careful to avoid concussion. He presented a well-deformed antero-posterior curvature of the spine, from the mid-dorsal vertebræ to the sacrum; was tender to pressure, and concussion induced pain. His abdomen was retracted a good deal and he stood awkwardly, complaining that he could not "straighten up" well. There was little tenderness in the iliac fossa, left side, but no tumor. His thighs were weak, but the reflexes were not exaggerated.

I made a diagnosis of osteitis of the vertebræ, probably tuberculous in nature, and employed the cautery, and immediately after this some adhesive strips over the bosse. Advised him to have a plaster of Paris corset made if he did not get prompt relief. On the next visit, about a week later, I made him a plaster of Paris corset and applied it within a few days thereafter. January 8, 1895, he had no pain in the back, walked quite erect, and felt much improved. February 17th, was quite straight, had had no trouble for a month or more, wore the corset with comfort, attended to his duties, that of a groceryman in a small town in New Jersey, and had been free from pain or annoyance. I saw very little of him from that date, but had a report from him on the 7th of February, 1896. From this I learned that he was quite well and was cured.

CASE XIII.—*Dorsal Pott's*.—A lady, aged thirty, was placed under my care November 3, 1887, by

Dr. Boyd of Savannah, Ga. Her history was a very long one, extending over two or three years. She was treated for rheumatism, for uterine disorders, etc., etc. It was not until she came under Dr. Boyd's care that a diagnosis of Pott's disease was made. I attempted to fit her with a Taylor posterior spinal assistant, but she could not, for some reason, get accustomed to it; did not get the necessary support to enable her to walk well, although I made special efforts to get her properly fitted, and the apparatus seemed to me to meet every indication. After two weeks' trial I abandoned the brace altogether and applied the plaster of Paris jacket, cut down for a corset. The bosse, which was rather prominent, diminished a little on suspension in the swing. A good fit was obtained, and she went home on the 1st of December, standing the trip very well. A report by letter on the 17th of February, 1888, was encouraging, and a report from the doctor in April was confirmatory of the good result thus far obtained. The corset failed to give her the support after six months, as it had broken in one or two places, so she returned on the 29th of August, 1888, for further treatment. I made an attempt to fit her with the posterior spinal assistant again, but she was with difficulty induced to wear it, and was anxious to have the plaster corset renewed. We persisted, however, in the use of the apparatus, and she returned to her home at the end of a month. The reports were not so satisfactory during the next twelve months, and in the latter part of August, 1889, she returned, having spent several weeks at the Hot Springs in North Carolina. She had been bedridden for eight or nine weeks, and was thoroughly dissatisfied with the steel brace. A few weeks prior to her return there developed a fulness in the upper portion of the left thigh. I found a good-sized abscess, which was undoubtedly spinal. It was aspirated, and seventeen ounces of pus withdrawn. During the two weeks following this I made three or four jackets before I got one at all satisfactory. About three weeks after the first aspiration I repeated the procedure, and withdrew thirty-six ounces of pus. Two weeks later thirteen ounces of pus was withdrawn and three and one-half ounces three weeks later. About this time the sac was pretty thoroughly empty and I kept the walls closely adherent by means of strips of rubber plaster. At the end of a month the sac had partially refilled and I aspirated again, getting this time three and one-half ounces. Shortly after this she returned, very much improved in every respect, and able to walk much better.

I saw her again February 21st, 1890, about two months after the last aspiration. She favored the left limb a little in walking, but I failed to detect any fluctuation in the iliac fossa, or on the outer side of the thigh. Her health improved and she became much more active, but it was not until March, 1892, that I detected a little fluctuation on the outer side of the thigh, in the site of the old abscess. Two ounces of pus were withdrawn and again on the 18th of April about one-half an ounce. Dr. Boyd wrote me in June, 1892, that he had succeeded in remov-

ing about four ounces of thick, shreddy pus. He thought at this time that she was developing pulmonary tuberculosis, but she went to the mountains and her health improved, the cough disappearing. I did not see her until the spring of 1894, when she seemed so far recovered that I urged her to remove the corset at night, but she objected to this on account of a dread of the return of the disease, so at this time I made a wood corset, after which there was no relapse of any kind, and during the year 1895 she continued to wear this support without any interruption. The latter part of 1895 I induced her to dispense with the wood corset and wear an ordinary corset, which I had made especially to fit her back, and which she wore night and day. She came to the city in September, 1896, in order to have massage, and to "learn how to sleep" without the corset.

On October 17, 1896, I had Dr. E. G. Janeway in consultation, and he was unable to find any pulmonary lesion. There had been no recurrence of the disease. This, to me, had been a most interesting case, as it presented features at times that seemed almost beyond relief. The patient herself was very eager to follow the instructions closely, and the disease, I am sure, has undergone complete resolution. She wears an ordinary corset by day, and none at night, is able to attend to her household duties, can travel at will, and presents really very little deformity. The upper portion of the body seems to have developed and the deformity to have markedly receded. I have presented this case in detail to demonstrate what can be done by careful and repeated aspirations where the abscess is suitably situated, as well as the efficiency of a good splint to the back. She has been under my care, with only one interruption, from 1887 to the present time, nearly ten years.

I want to lay before you a case where the abscess was treated differently, and where the result promises to be equally good:

CASE XIV.—A gentleman, aged thirty, was brought to me for treatment on the 11th of September, 1889, by Dr. Glassford. He had complained for two or three years of his back, and during the winter of 1890-1891 an abscess appeared in the right loin. At the same time a second abscess appeared to the left of the spinous processes of the third and fourth lumbar vertebrae. Both were open, and when I made an examination there was a slight boss in the dorsal-lumbar region, with a lameness affecting the right hip. I treated him by means of a plaster of Paris corset. His physician attended to the abscesses, kept them well drained and thoroughly aseptic. He has come to me from time to time for a new corset, and I think I have made him five altogether. He has attended to his business throughout. Quite recently he called and I found his general condition very good, he reporting that the sinuses were discharging a little, but that he had learned to take care of them, with the assistance of the doctor, and that his back gave him little or no trouble.

CASE XV.—A gentleman, aged thirty-one, was re-

ferred to me by Dr. Battle of North Carolina, November 7, 1895. For several years prior to this date he had suffered occasionally from a pulmonary tuberculosis involving the upper portion of the left lung, but under the influence of good air and hygiene, the process seemed to have been finally controlled. During the early fall he suffered much from lumbago, finding that he was unable to ride or to get about with any degree of comfort. The pains became quite severe, and at the time I saw him there was a marked kyphosis in the dorsal-lumbar region, the apex being in the lumbar. The pains were referred to the posterior aspects of the thighs. He was unable to stand erect, and it was difficult for him to get into an easy position. I applied a light plaster of Paris jacket as he lay prone between two tables, and from this jacket made a wood corset, which, after some little alterations, became quite tolerable. He went south the middle of December, 1895, bearing the trip well, and after a month the improvement was very marked. Toward the end of January he had a recurrence of his pulmonary symptoms, general condition grew worse, and early in February developed tubercular meningitis, from which he died on the 10th.

I have reported this case in order to bring out more prominently the importance of an early diagnosis, especially when the disease occurs in a patient already the victim of pulmonary tuberculosis. The necessary impairment to health, by reason of long suffering and anxiety, is decidedly in favor of a recurrence of pulmonary symptoms. After the deformity has presented itself, and after many weeks of suffering, one cannot expect to accomplish much by any treatment, but even in a case as desperate as this, the relief from a good fitting corset was most pronounced.

The remaining cases which I shall present illustrate the effect of immobilization in cases of Pott's disease where compression paraplegia exists.

CASE XVI.—A gentleman, aged forty-eight, was referred to me by Dr. E. G. Janeway, on the 3d of October, 1895. The doctor himself had made a diagnosis of Pott's disease a day or two before he came under my observation. The history was that all of the family had died of tubercular diseases, although he himself had been quite well and active in business, up to the invasion of the present disease, with the exception, perhaps, of pneumonia, some twenty years ago, which affected the left lung, and which was followed by pleuritic adhesions. In the fall of 1894, while returning from Europe, he suffered from what he described as "body pains." These pains were confined to the pectoral muscles and the ribs, but they were not very severe, and did not cause him much annoyance. On reaching home they gradually disappeared, and in February, 1895, they returned with a little more severity. One night, about the middle of March, he had a very sharp attack of pain, attended with fever, and he "ached all

over," being treated for *la grippe*. At the end of three or four weeks he was sent south, but the temperature was exhausting, and he remained only a month, obtaining no relief whatever. The pains at this time were gripping, and were below the mammary region on each side. He sought relief at the Hot Springs of Arkansas, and took a full course of treatment, but without effect. Soon thereafter the pains began to assume a girdle-like feature, and he found that he could not laugh or sneeze without pain, and was compelled to lie upon his back most of the time at night. He took to exercises of various kinds, in order to "work his rheumatism off." Later he sought relief at an "osteopathic" institution in Missouri, and left unimproved. In the latter part of August he had at his home an attack of what was called pneumonia, or pleurisy, and was in bed for a few days, at which time he was examined by distinguished surgeons, who differed as to his disease. One especially, of world-wide fame, pronounced the disease tubercular, while another pronounced it rheumatism or gout, and, as the latter was a medical man, his advice was taken. He urged dumbbells and exercises. An orthopedic surgeon is reported to have pronounced his case Pott's disease. He finally went to a sanitarium in the northern part of this State, and two weeks after beginning treatment began to feel a peculiar sensation in his lower limbs, and a tingling in the thighs. The spinal pains increased in severity, so he came to the city and consulted Dr. Janeway.

I found a deformity involving the eighth, ninth, and tenth dorsal vertebrae, exaggeration of the patella tendon reflexes, a typical spinal gait, with pains in the lower part of the back and thighs. With the history which he gave and with this cursory examination, I had no difficulty in confirming Dr. Janeway's diagnosis. He was very desirous of getting something that was light, so I made him a wood corset. In fact, I made him two or three wood corsets, but insisted on the recumbent posture and employed the cautery and potassium iodid. The wood corset was not satisfactory, and in December I abandoned this and made him one of plaster of Paris. The first one did not fit well, so I made a second, and he began to improve from that time forth. The subsequent notes are but a record of continued improvement; from a helpless individual, he became quite active, and now attends to business, going from one city to another without inconvenience. I occasionally see him when it is necessary to make a new corset, but these articles last a long time, and hence there is very little active treatment.

CASE XVII. — A gentleman, aged twenty, was placed under my care May 30, 1892, by Dr. L. M. Yale. In 1884 he first showed signs of Pott's disease, and came under Dr. Yale's care two or three months later, when a plaster of Paris jacket was applied. He lived at some distance from the city, and the jackets were not renewed as frequently as the doctor desired. In the spring of 1891 he showed signs of weakness in the limbs, and his gait was distinctly ataxic. At this time he was treated in Boston, where

the opinion was given by a most excellent surgeon that his ataxia was not due to compression myelitis. It is fair, however, to state that this gentleman, after observing the patient for a month or two, changed his opinion. In view of this apparent uncertainty, the patient became discouraged, and at a time, too, when his paralysis was increasing. At the time I saw him he could barely walk a few steps. He could lie on the couch, however, and move his limbs from side to side and over small ranges, but the muscles were very weak. All the reflexes were enormously exaggerated. The deformity of the spine was not great, and a Taylor brace, which seemed to fit him very well, was deemed quite efficient. I applied a plaster of Paris jacket, with head spring, made free use of the cautery, and gave potassium iodid in increasing doses. By the time he really came under treatment, June 10th, the paraplegia was about complete. Treatment was continued at his home by the family physician, who was most painstaking, and who carried out every instruction to the letter. Reports were received from time to time which indicated a marked improvement. I saw him on the 20th of April, 1893, after about eight or nine months' treatment. All of his muscles in both lower limbs responded well to voluntary efforts. He moved his limbs about without tremor, the reflexes were not very much exaggerated, and he could stand without any assistance, but I did not prolong the examination, for fear of a recurrence of symptoms. The improvement has continued up to the present time. I have made for him several plaster jackets and two or three wood corsets. During the last year he has been going about, has ridden a bicycle on one or two occasions, and has suffered no relapse. Quite recently I have made an examination, to find his return of power about complete. He is wearing a convalescing jacket. From time to time he is indiscreet in the amount of exercise, but a two or three days' rest is sufficient to bring about complete restoration.

SCARLATINIFORM ERUPTIONS FOLLOWING OPERATION OR TRAUMATISM.

By FRANCIS R. PACKARD, M.D.,
OF PHILADELPHIA.

My attention was first directed to this subject by the occurrence of two cases in the wards of Dr. John Ashhurst at the Pennsylvania Hospital. I am indebted to him for permission to refer to them.

CASE I. — A. M., white, female, aged 2½ years. Necrosis of the metatarsal bone of the great toe. Two days after admission the diseased bone was removed. Twelve hours subsequent to the operation her temperature began to rise. It reached 105° F. twenty-four hours later, when a rash appeared, which was universal, bright scarlet, and not punctated. The throat was very red and sore and the tonsils swollen. There was considerable doubt as to the diagnosis, but on the second day after its appearance the rash disappeared coincidentally with a rapid de-

cline of the temperature to normal. There was no desquamation.

CASE II.—W. H., white, male, aged five years. Empyema. His illness dated back four weeks prior to admission. Sixteen days after his entrance to the hospital the chest cavity was opened and drained (Estländer's operation). The patient did perfectly well until the fourteenth day after operation, when his temperature went up to 103° F., the pulse became very rapid, and a faint, universal erythematous flush made its appearance. His throat became much reddened and very sore, and his tongue presented the typical "strawberry" aspect. He was promptly isolated. On the third day after its appearance the rash disappeared without any subsequent desquamation. There was no albuminuria. The case did well, and went on to recovery without further incident.

In neither case could any history of exposure to scarlatinal infection be found, although diligently sought for.

We see here two instances of scarlatinoid eruption following a surgical procedure, and apparently having a direct relation to it. In each instance the case ultimately proved not to be scarlatina, but not until there had been sufficiently suspicious symptoms presented to render the diagnosis very doubtful, and to throw a very heavy responsibility on the shoulders of the attending surgeon. No surgeon would knowingly omit any precautions which would prevent an outbreak of scarlatina in his wards, nor at the same time would he be willing to expose a child who might not have scarlatina to the risk of sending it into an isolation ward where it might be possible for it to contract the disease from other patients.

The cutaneous phenomena which so frequently manifest themselves after the performance of a surgical operation, or the reception of a wound, resemble scarlatina so closely that the name "surgical scarlatina" has been coined to describe them. In truth, many eminent authorities have held that all such eruptions should be considered as symptoms of true scarlatina, and that the patients should be isolated and treated as the subjects of that disease. This opinion is especially prevalent among English surgeons, and numbered among its supporters are Sir James Paget and Dr. Goodhart. On the other hand, many equally prominent practitioners can be named who hold that if scarlatina does occur in a patient who has been the subject of recent operation or traumatism, it is to be regarded as a mere coincidence, and that the numerous cases of scarlatinoid eruptions which have been reported are merely transient erythemas and of no particular significance. They claim that the term "surgical scarlatina" is a misnomer and should be abolished, as, if the disease does occur under such circumstances, it has no relation whatever to the surgical condition.

In 1887 Albert Hoffa, a German writer, attempted to make a definite classification of the rashes which occur under such circumstances.¹ He divides them into four classes, as follows:

1. Those which are due to vaso-motor irritation; chiefly seen after operation on parts which have an abundant nerve supply, and occurring a few hours after operation. They resemble an erythema, or sometimes an urticaria, and disappear a few hours after their appearance. Under this head he places puerperal scarlet fever.

2. He terms the second class the "toxic erythemas." They have no prodromal symptoms, appear usually after a lapse of twenty-four hours, or as late as forty-eight hours, after operation, are accompanied by much febrile and usually some gastric disturbance. They generally present themselves as a diffuse redness, or as large isolated patches of redness with clear interspaces, appearing only on the body and extremities, and vanish in twenty-four hours without desquamation. These are the result of absorption of wound secretions, such as fibrin-ferment. They are analogous to the eruptions caused by the absorption of such drugs as carbolic acid and corrosive sublimate, or to the ingestion of antipyrin, copaiba, etc.

3. This is the class of infectious erythemas in which the eruption is but the indication of a general septic infection, and in it are included the eruptions of pyemia and septicemia. They may be erythematous or urticarial; may be diffused or in isolated patches. The eruption is sometimes petechial, sometimes pustular; sometimes it closely simulates the rash of scarlet fever. These eruptions are attributed to embolism of the capillaries with micrococci.

This classification is so simple and so eminently practical that I shall follow it in my endeavor to analyze and classify such cases as I have been enabled to gather which have been of such a nature as to cause doubt as to a true diagnosis. It should be noted first, that scarlatina is practically the only one of the eruptive fevers that has been brought into prominence in connection with traumatic conditions.

Sir James Paget, in his address on surgery before the British Medical Association in 1862, mentioned the case of a boy, who, three days after the operation of lithotomy, developed a vivid red eruption at the site of the wound and went through a typical attack of measles. In the report of the Evelina Hospital for Sick Children² there are notes on two outbreaks of measles among the surgical cases in the wards. The first series of cases, numbering eight in all, were clearly traceable to infection from a nurse. Six of

¹ "Ueber den sogenannten chirurgischen Scharlach-Sammul." *Klin. Vortr.*, Leipzig, No. 292, Chir. No. 90, 1887.

² "Guy's Hospital Reports," vol. xxiv, 1879.

the eight patients had recently undergone surgical operations; one had a suppurating hip-joint, and in only one was there no inflammatory nidus. It is stated that these were the only cases which occurred among some fifty children, though no statement is made as to whether any of the children who escaped contagion may not have been the subjects of operation. The second series numbered five cases, all traceable to one of their number, a boy admitted with "fits," who presented symptoms of measles a few hours after his admission. The four cases arising from this, developed—one in a case of phthisis, one in a case of necrosis of the tarsus, one in a case of pustular eczema, and the other in a boy who had been the subject of a lateral lithotomy three weeks before. From the record of these two outbreaks, Dr. Goodhart infers that a larger experience will prove that measles has the same tendency as scarlatina to develop in these conditions, but being less widely spread and less active in its contagious properties, it is not so often seen.

These are the only instances I have been able to find of any eruptive disease other than scarlatina following upon trauma or operation so as to exhibit in any way a relationship between the occurrence of the exanthem and the injury, and I am not inclined to think that any of these cases indicated anything more than a coincidence in their development. Civiale, who appears to have been the first to call attention to these traumatic eruptions, says that papulo-macular or petechial eruptions are not infrequently met with in patients who have undergone lithotomy. He makes no mention of a rash in any way resembling scarlatina, or any other of the exanthemata.

As regards the development of scarlatina under such circumstances, we have the reports of numerous cases in which not only did the patient present symptoms of scarlatina himself but communicated it to others; and, in addition, a large number of cases of so-called "surgical scarlet fever," in which the diagnosis of scarlatina could not be rendered so positive. But no one will dispute the importance of making an early and absolute diagnosis. When one considers what an outbreak of scarlatina in a hospital means, he certainly will run no risk of incurring it through an error of diagnosis.

The question naturally arises as to why scarlet fever and not the other exanthemata should be predisposed to, and why it should be simulated under such circumstances; and here we are confronted by the fact of the frequency of scarlatiniform eruptions in conditions in nowise allied to scarlatina. Thus, the various drug rashes (copaiba, belladonna, antipyrin, quinin, etc.), are in most instances of the nature of an erythema, and many cases are recorded in which they

were confused with the disease whose skin lesion they so closely resemble. Scarlatinoid eruptions have been reported as having followed such trifling disturbances as that caused by the passage of a sound, or the administration of an enema. Frequently red rashes, usually, however, localized in area, appear as the result of reflex disturbance in uterine or ovarian disease, or at the menstrual period. Of course, the explanation of this is to be found in the fact that they are all practically embraced within the first two classes mentioned by Albert Hoffa (*op. cit.*); that is, they are either the result of direct vaso-motor irritation, or, as in the case of the drug rashes, are secondary to the absorption of some substance which acts on the vaso-motor nervous system in such a way as to disturb its equilibrium. It would seem that the most common source of error in the diagnosis of cases of this character has been that the rash has alone been considered to be the diagnostic feature, and the other symptoms of scarlet fever have either not been sought for, or, if not present, the case has been ranked as scarlatina of an atypical type.

Dr. A. O. Blackadder¹ emphasizes the fact, so often overlooked, that "the mere presence of a scarlatiniform rash, going on to desquamation and associated with pyrexia, does not of itself warrant the diagnosis of scarlet fever." Considering the variety of conditions which give rise to scarlatiniform rashes, it would seem unwise to regard as the most important and characteristic feature of a disease that symptom which, above all others, is most frequently simulated. Systematic writers notice the occurrence of *scarlatina sine angina* and of *scarlatina sine eruptione*, thereby demonstrating the liability of the disease to variation as regards its most prominent symptoms.

Paget² regarded all these scarlatiniform eruptions associated with pyrexia and following surgical procedures, as true scarlatina. He held the view that the occurrence of scarlatina after operation was not a coincidence, as, if it were, we would find a corresponding number of cases among surgical patients who had not been operated upon. He never in his private practice saw scarlatina supervene in a surgical case which had not been the subject of recent operation, whereas, the year previous to the publication of his lectures he saw six cases following operations in his private practice, had notes of four others, and had heard of many more. He states as his opinion that there was something in the consequences of a surgical operation which made the patient peculiarly susceptible to the scarlatiniform infection, and he held that with this susceptibility of the patient the disease underwent certain modifications, which accounted for the

¹ *Archives of Pediatrics*, vol. xii, No. 9, 1895.

² *Clinical Lectures on Surgery*.

obscuration of the diagnosis in so many of the cases.

E. C. Stirling,¹ after a most exhaustive investigation of the subject, affirms that "there occurs sometimes after wounds and injuries what may be called a simple surgical erythema, often closely resembling scarlet fever but independent of any connection with that disease. Other eruptions of different type may occur under like circumstances." He says scarlatina occurs also in such conditions, but whether it should be regarded as more than a mere coincidence he thinks is still *sub judice*. He recommends that all such cases should be isolated, as an absolute differential diagnosis is in the majority of cases almost impossible. Goodhart (*op. cit.*) states that "there is no room for doubt that scarlet rashes after operation at the Evelina Hospital have mostly been veritable scarlet fever." He says distinctly that he does not regard all red rashes following wound or operation as scarlatinal, but that experience shows that they are mostly such, and hence should be isolated. The twenty-five cases, however, which he commented upon, all presented a definite history of infection, and when removed to the fever ward where patients with scarlet fever were confined none of them contracted it. All of them presented other characteristic features in addition to the rash. Dr. Goodhart holds that any local nidus of inflammation suffices to increase the susceptibility of a patient to scarlatina, and that it is not necessary for a traumatism or an operation to have occurred recently to increase this susceptibility. Hoffa (*op. cit.*) thinks that there is no doubt that surgically wounded patients manifest a predisposition to contract scarlet fever. His view is that the disease enters the system through the wound, and in support of this he cites cases in which the eruption began at the edges of the wound and gradually spread from there over the body. He differs from Paget, who thought that the poison lies dormant in the system of the patient at the time of the reception of the wound, and that the patient might never manifest the disease if his vitality had not been impaired by the latter. Against Hoffa's view might be stated the fact that undoubted scarlet fever has been reported as occurring in cases where the repair of the wound has run a healthy course throughout.

J. Hendrie Lloyd² reported a case which was undoubtedly one of true scarlet fever, as it gave rise to an epidemic. The wound was a trephining one of the skull, and the eruption made its appearance on the abdomen and thighs. In Hensch's case,³ which also was one of true scarlet fever, the operation was

the opening of an abscess in the pectoral region, and the eruption began on the face, arms, and inner surfaces of the thighs.

In contradiction of Paget's theory of the occurrence of the disease being a result of impaired vitality we may cite the numerous cases which have occurred after very slight disturbance of the organism. Thus the opening of an abscess rarely depresses the vitality of the patient. J. Walter Browne¹ reports the occurrence of true scarlet fever, proved by its communication to other patients, in a man whom he had circumcised, an operation certainly not calculated to greatly impair the vitality.

An analysis of the reported cases has been rendered difficult by the various manners in which they have been reported, and because so many of the cases said to have been of true scarlet fever were simply judged to have been such by the appearance of the rash, and have been reported without reference to the absence or presence of other diagnostic symptoms of the disease.

As regards the nature of the injuries or operations which are followed by scarlatiniform eruptions or scarlet fever.—From the following table it may be seen at a glance that the nature of the injury or operation has but little if anything to do with the development of the eruption. All of the abscesses in the list were probably tuberculous, save two, as they communicated with diseased bone. Of the two exceptions, one was an ischiorectal abscess, the other an abscess over the pectoralis major muscle. Lithotomy stands high on the list, and attention may again be called to the fact that Civiale mentions the development of eruptions after this operation. The cases here included are all such as were regarded as true scarlet fever or as "surgical scarlet fever" by those who reported them:

Opening of abscesses, 16; lithotomy, 13; circumcision, 8; burns, 7; staphylorrhaphy, 5; tracheotomy, 4; tenotomy, 4; osteotomy, 4; sequestrectomy, 4; harelip operation, 3; bruise, 3; removal of diseased tarsus, 2; amputation of thigh, 2; plastic operation for webbed fingers, 2; opening of sinuses, 2; lacerated wound, 2; removal of lipoma, 2; scalds, 2. Of each of the following there was one case reported: Supernumerary toe (plastic), aspiration of abscess, herniotomy, ovariectomy, excision of elbow, amputation of arm, resection of knee, ligation of varicose veins, Syme's operation (disease of tarsus), tonsillotomy, removal of exostosis from tibia, removal of cysts from neck, resection of hip, operation for encysted hydrocele, fracture of femur, puncture of cyst, abrasion of arm, excision of hemorrhoids,

¹ "St. George's Hospital Reports," vol. x, 1870.

² "Annals of Gynecology and Pediatrics," April, 1891.

³ *Charité Annalen*, iii, Jahrgang, 1876.

¹ *British Medical Journal*, vol. ii, p. 622, 1895.

operation on septum nasi, incision of empyema with drainage. Total, 105.

As regards the age of the patients.—The age of the patient was stated exactly only in seventy-two of the above cases. The oldest patient was a woman of twenty-six years, the youngest a child of twenty-one months. But five of the seventy-two were twenty years old or upwards. The average age was six years and four months. Some have regarded the youth of the patients as significant of these eruptions being truly scarlatinal, because of the much greater frequency of occurrence of scarlet fever during childhood. It must be remembered, however, that a child's nervous system has not attained the equilibrium possessed by that of the adult, and that vaso-motor phenomena are consequently more easily induced and are of more striking character than they are in the adult. It is probable that the majority of these cases come under the first class of Hoffa, and must be regarded as vaso-motor phenomena.

Sex.—It is a curious fact that although we might have expected, from the greater susceptibility of their nervous systems, to find the number of females exhibiting these phenomena greater than the number of males, the contrary is true, for of 104 cases in which there is a record of the sex, 61 were males and 43 females. Of course, there is no difference in the susceptibility of the two sexes to scarlet fever.

The history of infection, or of non-exposure, presented by such cases.—In some of the cases recorded, which afterwards proved themselves to be undoubted scarlet fever, it was impossible to find any source of infection. In Lloyd's case (*op. cit.*) he was unable to trace any history of exposure whatever, the ward in which it occurred being new, somewhat isolated, and having never contained a case of scarlet fever before. The patient had not been exposed to infection from without. There is also the celebrated case of Surgeon-Major Ffolliott of Peshawur,¹ in which a private in the British army in garrison in India was injured by a powder explosion, and four days later developed a bright scarlatiform eruption with rapid pulse and high temperature. The medical officers pronounced the case one of scarlet fever. Anent this case, Sir Joseph Fayrer made the statement that scarlet fever was so rare in India that many hold it is not seen at all. He had seen but two cases and these were distinctly traceable to a box of infected clothing sent out from Europe.²

J. Walter Browne (*op. cit.*) reports an interesting series of cases in this connection. A man admitted to his ward, and circumcised the day of admission,

thirty hours after operation developed a typical attack of scarlet fever and died in seventy hours. It transpired that during the two weeks previous he had been daily visiting a friend who was suffering from scarlet fever. A girl, whom his assistant dressed after having earlier in the day attended upon the circumcision case, developed scarlet fever in sixteen hours. A child that was admitted to the ward with a lacerated wound of the leg, and placed for three-quarters of an hour in a bed next to that occupied by the girl mentioned, six hours after admission, developed headache and vomiting and died in fifteen hours without the appearance of the rash. *Post-mortem* an abundant purpuric rash appeared. Here the disease seems to have manifested an extreme degree of contagiousness and malignancy. He also reports an isolated case of a healthy child with a harelip, who, sixteen hours after operation developed a rash and died. It had been exposed three months previously to operation.

Immunity.—The question arises whether these scarlatiform eruptions manifest themselves as readily in those who have previously had scarlet fever as they do in those who have never had the disease; also, whether the occurrence of the traumatic rash renders the patient any less liable to subsequent infection. Scarlet fever is a disease which is particularly inapt to occur twice in the same individual, hence the question of immunity would seem to have an important bearing on the nature of these eruptions. The records concerning this point are, unfortunately, very scanty. H. W. Page³ reports a case of undoubted scarlet fever occurring in a man who had had two previous attacks. It was a genuine case of the disease, as he communicated it to one of his nurses. He had had some old sinuses in his groin slit up five days previous to the appearance of the eruption. Mr. George May⁴ reports what appears to have been genuine scarlet fever following a lacerated wound of the scalp in a boy who had previously had the disease. The only anomalous symptom of the boy's second attack was the absence of sore throat; otherwise the case was typical. Of course, with such scanty data, no definite conclusion can be drawn. Mr. Murray,⁵ however, in reporting an outbreak of scarlet fever in the Pendlebury Children's Hospital, states that at the time of the outbreak there were twenty-seven children in the ward, twenty-three of whom had wounds, while four had not. Five of the patients with a wound had previously had scarlet fever; none of the cases without wounds had ever had it. Only one of the patients without a wound contracted the disease.

¹ *British Medical Journal*, vol. i, p. 305, 1879.

² Hoffa places Ffolliott's case in his third division as one of toxic erythema.

³ *Lancet*, vol. ii, p. 887, 1885.

⁴ *British Medical Journal*, vol. ii, p. 428.

⁵ *British Medical Journal*, June 18, 1887.

Does an operation or a traumatism increase susceptibility to scarlet fever?—Paget (*op. cit.*) thought that it does, and produced records from his case-book to prove it. Goodhart, as we have seen, thought that any inflammatory focus in an individual rendered him more apt to contract scarlet fever. Mr. Murray's series of cases, referred to above, would seem to bear out the view that susceptibility is increased by a wound or an operation. Paget, in reporting the case which we have cited, raised the question as to whether it is justifiable to operate on a patient who has been even remotely exposed to the contagion of scarlet fever. The man upon whom he operated had two nurses in constant attendance, and they were equally exposed to contagion. One of them contracted the disease. The other nurse had never had scarlet fever, and two weeks later Paget removed one of her breasts for an adenocarcinoma, yet she never manifested any symptom of the disease. He questions whether it was right for him to operate when he knew she had been thus exposed. J. A. Lea¹ reports a case of abscess of the leg from necrosis of the tibia. The patient was a man aged thirty-nine years. A few days after the operation his temperature rose to 104° F., and a scarlet eruption appeared, which went on to desquamation. He had albuminuria, but no sore throat. It was shown that one of his children had just had scarlet fever, and subsequently several more of the children developed it, but the surgical patient was the only adult among a number who were equally exposed who manifested any symptom of the disease.

The relation which the treatment and behavior of the wound bears to the development of such eruptions.—The earlier writers on this subject wrote at a time when the antiseptic treatment of wounds was just coming into vogue, and had not of course reached its subsequent perfection of technic. Goodhart laid stress upon the fact that the principles of antiseptics, as at that time laid down, had been strictly carried out in all the cases reported from the Evelina Hospital. Stirling emphasized the statement that if the theory of the absorption of the scarlatinal poison through the wound is correct, we should find a most notable diminution in the number of cases when the antiseptic treatment would be more universally adopted. This diminution has not occurred. Fully as many cases are seen at the present time, when the aseptic treatment of wounds is so thoroughly understood and practised, as at the time when he wrote (1879). It might be suggested that some of the rashes occur as the result of the use of the drugs employed in procuring this asepsis; but even if we exclude some cases on these grounds, we

have epidemics, such as Lloyd reports, where the wound was rendered as sterile as possible, and where the disease proved itself true scarlet fever, so that there was no question of any drug-poisoning. Of course, the occurrence of pyemic or septicemic rashes, the result of invasion of the organism by septic material in the wound, is not to be considered as affecting this statement, as we refer only to the occurrence of genuine scarlet fever, or of the scarlatiniform erythema.

As regards the behavior of the wound, we can only say that it appears, in the vast majority of cases, to bear no relation to the rash, or to infection with true scarlet fever. In Lloyd's case the wound pursued a healthy course. Occasionally, as in J. A. Lea's case, the wound assumes a phlegmonous and unhealthy appearance. As the occurrence of any pyretic condition would in most cases somewhat disturb the process of healing, we must distinguish the unhealthy appearance of the wound resulting from an intercurrent febrile attack from a bad condition of the wound causing such an outbreak.

Variations in the course of true scarlet fever occurring under such circumstances.—We would naturally expect to find the disease undergoing some modifications in its course if it occurred in a patient suffering already from a wound, but the question we desire to answer is, Is there any constant variation in scarlet fever in these conditions which will always be present when the disease follows traumatism? To this we must answer in the negative. "Surgical scarlet fever" possesses no distinctive feature; it varies with the greatest irregularity, or sometimes varies not at all. Some have held that the period of incubation of the surgical form is shortened, but it has been proved that it varies from twenty-four hours to six days, and averages about the same as that of ordinary scarlet fever.

The rash presents, as might be supposed from it always being mentioned as the characteristic of "surgical scarlet fever," the same features as the ordinary scarlatinal rash, varying, as it does, occasionally, but as a rule appearing as an erythematous, punctate flushing, which disappears in three days by scaly desquamation.

One curious fact is that even when the disease has definitely proved itself to be scarlet fever, there has been a marked tendency to an absence of sore throat, or when it has occurred it has been mild, as in Lloyd's case.

Medical Men Volunteering to Fight the Plague.—A call has been issued to army medical officers in England for volunteers to go to Bombay and assist in suppressing the plague. It is meeting with prompt response.

¹ *British Medical Journal*, February 15, 1899.

MYCOSIS OF THE TONSILS AND ADJACENT PARTS.

By FRANK S. MILBURY, M.D.,

OF BROOKLYN;

LARYNGOLOGIST TO THE BEDFORD HOSPITAL AND DISPENSARY.

SINCE the first contribution to literature on the subject of mycosis of the tonsils and contiguous structures by Fränkel, in 1873, others have written more or less concerning this disease, yet information at this date in medical books or journals is meager, and little or nothing new has been elicited in the way of diagnosis or treatment. Various investigators have reported this affection as occurring in persons of all ages, ranging from twelve years to over sixty, although it is usually a disease of young adult life. Lennox Browne says that it "generally occurs in subjects living in damp, unsanitary dwellings and neighborhoods, and who exhibit want of cleanliness." This may in a measure be true, but I think the experience of others goes to prove that the disease is just as liable to be found among persons living among the best of sanitary surroundings and of most cleanly habits. I think it is generally seen in persons suffering from a general cachexia and from catarrhal affections, but the etiology of pharyngo-mycosis is extremely uncertain. No researches have as yet succeeded in tracing the origin of this disease, but there is a consensus of opinion that the *leptothrix* bacillus is the leading microbe found in the growth. Hypertrophied tonsils, atrophic rhinitis, mouth-breathing, etc., seem to predispose to the production of the disease.

According to writers on the other side of the Atlantic, mycosis is a rare affection, and in this country comparatively few cases are brought to the notice of the profession. In mycosis of the throat an accurate diagnosis is always desirable for its successful treatment, as there is a possibility of its being confounded with follicular tonsillitis or pharyngitis; and as the methods of treatment are so different it is very essential that the proper line of procedure be adopted at the beginning. Some affections may be successfully treated symptomatically, but mycosis cannot. One writer mentions dental caries as a possible cause of the disease. Microscopic examination will clear up any doubt as to diagnosis.

Local symptoms vary; sometimes nothing is felt; again, there may be a scratchy sensation, or a slight or severe tickling, producing cough, dyspnea, dysphagia, etc. In other cases inflammation, with pain and fever, is present, with the consequent constitutional disturbances. Asthma is sometimes present, and is quite persistent. The objective symptoms are spots upon the pharyngeal wall, the lingual, faucial, or pharyngeal tonsils, or on the anterior or posterior

pillars, but apparently the favorite seat is upon the faucial tonsils.

I think Dr. Henry B. Hemenway describes this affection better than any authority I have seen, so I shall quote his words as follows: "These spots vary in color from white to cream yellow, but the former is the prevailing color. When upon the tonsils they are seen to grow from the crypts, are very tenacious, not easily torn off, and when removed by forceps are rapidly reproduced in the same locality, sometimes within twenty-four hours. Generally, the growth is in the form of filaments or tufts; sometimes confluent in a form of membrane. Normally, the mucous membrane around the fungus is natural in color. Mycosis is differentiated from diphtheria by its chronic nature; by less tendency for the fungus to spread; by absence of fever and symptoms of systemic disturbance—excepting when accompanied by tonsillitis; by absence of the diphtheritic odor; by absence of pain, and by the form of the fungus. When in the membranous form it does not come off as a membrane, but breaks in pieces. When removed it sometimes leaves bleeding spots, but the mucous membrane is not so much denuded as in diphtheria. In follicular pharyngitis the contents of the follicles are easily expressed. The calcareous concretions sometimes found in chronic follicular amygdalitis often project from the crypts and are also easily expressed. Although in follicular inflammations the accumulations frequently contain *leptothrix* threads, they are not composed of the filaments. The only sure way or method of diagnosis is by the use of the microscope."

This affection is not dangerous in any degree, but is very troublesome, owing to the peculiar liability of persons so affected to frequent acute inflammations of the tonsils and adjacent parts, and extension into the larynx. Dr. Hemenway states that "it may be implanted upon the nasal mucous membrane or in the lungs." The former is correct, but I believe the latter to be impossible. Certainly, no instance of this particular fungus being found in the lungs has been recorded, as far as I have been able to discover. At one time I made a note of a case discovered in the larynx, but have forgotten when or by whom noticed.

Many methods of treatment have been suggested, such as the local application of chemically pure lactic acid, bichlorid of mercury solutions, or alkaline solutions, (on the theory that the *leptothrix* germs thrive only in acid secretions), and of tincture of iodine, nitrate of silver, alum, tannin, permanganate of potassium, etc., but these agents in my hands have only given temporary relief, and like all other medicinal lotions have proved worthless as regards a permanent cure. Dr. John Dunn of Richmond, Va.,

claims good results from the use of permanganate of potassium. With all specialists the galvano-cautery alone, or the curette or forceps, followed by the cautery until the base of the trouble is reached, has proved the only means of complete eradication.

The following is a case in point:

Miss J., aged nineteen, accompanied by her family physician, called on me in October, 1891. The latter wished to ascertain why it was that he could not cure a case of follicular tonsillitis, which had been so much more obstinate than any before met with in his experience. The lady belonged to a wealthy family, and was herself large, very robust, and energetic. The sanitary conditions of her home were of the best, and all surroundings favorable to health and good nature. She was subject to frequent attacks of acute tonsillitis, and latterly to a slight cough and a very annoying scratchy sensation of the throat, which would not respond to treatment. Ocular inspection revealed considerable hypertrophy of both tonsils with numerous deep crypts filled with a whitish substance which I believed to be leptothrix. This supposition was confirmed subsequently by microscopic examination. I pronounced it a case of mycosis, and, the tonsils being so large, I believed that by excision I could get below the base of the trouble and thus effectually eradicate the disease. Tonsillectomy was therefore performed, but it resulted in failure, as the disease extended much deeper. I then concluded to use the electro-cautery. This was applied at intervals of from one to two weeks, fourteen times in all, before thorough eradication was accomplished. Up to the present date there has been no return of the disease.

During the last four years I have seen eleven cases of tonsillar or pharyngo-tonsillar mycosis in persons ranging from a robust condition to that of general asthenia. Some have been in families with good, and some in families with very bad, sanitary surroundings, and sanitation appeared to have very little to do with it. A majority of the patients were subject to recurrent acute tonsillitis or pharyngitis, and some had great hypertrophy of the tonsils, in which cases excision effected a cure. One patient, particularly, thirty-six years of age, who had suffered for years from tonsillitis and asthma, applied to me for relief. The nose was in excellent condition, but the tonsils were of enormous size and were mycotic. They were removed, and the asthma and tonsillitis vanished, never to return. Of course, I do not believe that the mycosis had anything to do with the asthma, as this must have been produced chiefly by the great obstruction in the pharynx which impeded free respiration.

The Superior Longevity of Women.—Of the fourteen reputed centenarians who died in England during 1896, eleven were women. Of the 188 persons who were declared at death to be over ninety years of age, 108 were women.

CLINICAL MEMORANDA.

HERNIA OF A SARCOMATOUS OVARY.¹

By GEO. SEYMOUR, M.D.,

OF UTICA, N. Y.

SARCOMA of the ovaries within the pelvis at their normal location is comparatively rare. Cystosarcoma, fibrosarcoma, and round-celled sarcoma are more often mentioned than spindle-celled sarcoma; so that a spindle-celled sarcoma escaping when of small size through the internal ring, and developing outside the pelvic cavity proper, and retaining direct relation to the uterus by means of peduncular attachment may be regarded as exceedingly uncommon.

On the 15th day of November last I was requested to visit Mrs. D. to advise in reference to a swelling or tumor in the right inguinal region. She was forty-eight years old, mother of several children, the oldest twenty-five years, the youngest five years of age. She gave no history of miscarriage or menstrual derangement of any kind, and said that a small tumor had first appeared about two years before, had gradually increased in size without causing pain or discomfort, had disappeared when she was in the recumbent position during the first year of its existence, but had remained prominent both day and night during the past year. On examination I discovered the tumor to be somewhat sensitive to touch or pressure, with slight heat and redness of the surface, hard and irreducible. For two weeks previously it had caused some pain when she was in the standing or sitting posture. There was no vomiting nor obstruction to movements of the bowel. The appearance and location of the tumor led me to think it to be an inguinal hernia, possibly of incarcerated omentum, without strangulation. Dr. A. R. Simmons, who saw the case with me a short time after my first visit, concurred with me in the opinion that an operation for reduction of the tumor and relief of the patient was advisable. She accordingly went to St. Luke's Hospital, and on November 23d we performed an operation, the commencement of which was with the idea of dealing with an ordinary inguinal hernia not accompanied by intestinal obstruction.

After incision of the integument and tissues across the face of the tumor down to its sac, which was composed of layers of fascia and peritoneum, the mass was found to be attached to a large pedicle or ligament about four inches long and three-quarters of an inch in diameter, extending from the uterus within the pelvic cavity out through the internal ring to the under side and upper end of the tumor as it lay in the inguinal canal. The pedicle was tied with a strong silk ligature, cut off at about the junction of its outer and middle thirds, and the end of the portion left within sutured with catgut into and at the opening of the internal abdominal ring. A portion of the sac was ligated with catgut and excised. The tumor was ovoid in shape, four inches long, eight inches in circumference, and weighed five and three-quarter ounces. The wound

¹ Abstract of paper read before the New York State Medical Society, Albany, January 28, 1897.

was closed with silkworm-gut sutures, except at its lower part, and iodoform gauze left in the whole tract for drainage. At the end of six weeks from the time of the operation the large ligatures about the pedicle had passed out at the sinus and the wound was completely closed. Microscopic examination of the tumor by Dr. Stump, the pathologist of the hospital, proved it to be a spindle-celled sarcoma of the ovary.

The woman is now in good health, and has neither direct nor indirect local or general disturbance of the pelvic organs. Menstruation has occurred twice since the operation in a perfectly normal manner.

THE SERUM-THERAPY OF DIPHTHERIA IN PRIVATE PRACTICE.

BY A. C. HERMAN, M.D.,
OF LANSDALE, PA.

DURING the past spring and summer no less than thirty cases of diphtheria appeared in the town of Lansdale. Some of these were treated with antitoxin, while others received the older treatment. The results were so favorable to antitoxin that I am prompted to report them. I am now convinced that in all cases of diphtheria speedy and immediate cure will follow the early and proper use of this agent, and that no sequelæ or untoward complications need be feared. This declaration is made independently of any statement relative to the day on which the initial dose is or should be given. I wholly agree with the foremost authorities that the *early* employment of the serum is always most desirable. What I wish to state is, that the severity and prognosis of a case is not dependent, *per se*, upon the number of hours which may have elapsed since the appearance of the first symptoms, but upon the quantity and virulence of the toxins absorbed into the system, and the cell destruction of the vital organs caused by them. The wide difference between individual cases of the same epidemic of diphtheria, and between cases of different outbreaks is thus explained.

The best rule for treatment is to give the initial dose of antitoxin immediately after the diagnosis of diphtheria is made. In all doubtful cases it is best to administer it even if a positive diagnosis cannot at the time be reached. Professor H. C. Wood states: "There is no reason at present for believing that antitoxin in moderate quantities does any harm when the child has not diphtheria. When, therefore, any case presents the clinical aspect of diphtheria, antitoxin should be used at once." Dr. L. Emmett Holt, Chairman of the Committee of the American Pediatric Society appointed to investigate the results of the serum treatment of diphtheria in private practice, speaks of the action of antitoxin in the system as being two-fold: (1) It prevents further development of the specific bacilli; (2) it neutralizes the toxins already present in the system. If the deadly effect of the toxins upon the centers of vitality has already passed the line beyond which redemption is impossible, it is clear that at best antitoxin can simply somewhat lengthen life.

One point I wish to make prominent here is that carbolic acid, which is but feebly antiseptic except in strong solutions, is a powerful toxic agent in the human system.

It is too irritant a drug to use in the preservation of antitoxin. I believe the failure to recognize this fact has resulted in deaths which were falsely charged, in part or wholly, against the antitoxin treatment. Trikresol, which is but feebly toxic, does not irritate the kidneys, while it is such a valuable antiseptic that but five-tenths of one per cent. is required to positively prevent contamination of the serum. All zymotic diseases necessarily have a most dire effect upon the vital organs; these need sustaining treatment, and it is as important to husband the patient's strength as it is to combat the disease. The following are a few reports in detail of my personal experience with antitoxin:

CASE I.—L. G., aged six years. The membrane covered all of the pharyngeal surface and extended into the larynx and trachea. It so impeded respiration that suffocation was imminent. The patient's sonorous breathing was audible from every part of the house. There was a most harassing cough. Prior to my visit she had had no treatment. The house next above and the second one below were under quarantine, and in each of these homes one child died. No antitoxin had been employed.

Sixteen years of practice, during which I had seen many cases of diphtheria, showed me that the case was a hopeless one. I was forced to the conclusion that no line of treatment hitherto advanced in this dread disease could save the patient, unless it was that of antitoxin, which, however, I had never used. A messenger was hastily sent for 2000 units (20 cc.) of antitoxic serum. During the afternoon of the same day 1000 units of the antitoxin was injected in the region of the groin, and on the following day I repeated the dose. The result was prompt and decided. As supplementary treatment, quinin, calomel, tincture of iron, and a liberal supply of whisky, was used. The convalescence was uneventful, the patient being discharged one week after my first visit.

CASE II.—Wm. G., aged fourteen, a member of the same family, was taken ill on the day his sister received her initial dose of antitoxin. His entire pharyngeal surface was early enshrouded with the diphtheritic membrane. He was promptly given an injection of 1000 units, which for the sake of prudence was repeated on the second day, although the throat was almost clear of membrane at that time. The patient rapidly recovered. In this case the additional treatment was confined to an astringent gargle, tincture of iron and quinin.

CASE III.—A. B., aged six years. This case appeared a few weeks after the foregoing. The appearance of the throat excited suspicion, but could not lead to a clear diagnosis of diphtheria. After employing the usual remedies with only moderate success for about six days, the entire pharyngeal surface was rapidly invaded by the characteristic membrane. The patient was promptly given an injection of 1000 units and all other treatment was discontinued, except small doses of tincture of iron. In this case I used a concentrated form of antitoxin, 4 cc., representing 1000 antitoxic units. The dose was repeated once. The result was the same as in the other cases.

CASE IV.—R. T., aged five years. This case was one of several in the same family, all of which, except this one,

were very mild attacks and were not treated with antitoxin. The disease in this patient early assumed a most malignant aspect, the throat being literally full of the exudate. One thousand units of concentrated antitoxin was injected, and the dose repeated on the following day. The effect was again equally favorable.

At the same time, a brother physician had a patient, an only child, in a neighboring family, who was suffering from a most virulent attack of the disease. Encouraged by the foregoing results the physician borrowed my syringe, and with two doses of 1000 units each, successfully treated his case.

The dread that I always entertained of having this monster, diphtheria, invade my own home and community, has absolutely left me, as I am now firmly convinced that in antitoxin we have a remedy that is worthy of our entire confidence.

MEDICAL PROGRESS.

The Pathology of Multiple Sclerosis.—GOLDSCHIEDER (*Zeitschrift für Klinische Medizin*, B. xxx, H. 5, 6, p. 417.) has reported a case of multiple sclerosis terminating fatally as a result of intestinal hemorrhage in the course of an attack of typhoid fever, and showing apparently the important part played by the blood vessels in the pathology of the spinal disorder. A girl, twenty-two years old, without neuropathic heredity, began to complain of a sense of heaviness in the legs, with difficulty in ascending stairs. Vertigo was present during the day, and on one occasion the patient fell, arising, however, immediately. On two occasions there had been vomiting. Drowsiness also manifested itself. On awaking one morning vision was obscured by tremor of the eyelids and hearing was dull. The impairment of vision and of hearing was greater upon the right side. On attempting to rise the patient fell. During the night there had been severe headache, much worse on the right side. The patient was well developed and well nourished. The face was flushed, the hands somewhat livid, the feet cool. No visceral disorder could be discovered. Marked nystagmus was present and was principally vertical. The palpebral fissure was narrow on either side. The left pupil was somewhat larger than the right; both reacted to light and in convergence. No ophthalmoscopic abnormality was detected. The patient complained of the movement up and down of bodies before her eyes. On lateral movement of the eyes the objects moved forward and backward. There was complaint of roaring in the right ear. Both auditory canals contained plugs of cerumen, the removal of which was, however, not followed by improvement of hearing. The upper extremities were ataxic, the right in particular, and this was also weakened. The right lower extremity also was ataxic and weak. The tendon-reflexes and the bone-reflexes in the upper extremities were preserved; the triceps-jerk was the more marked upon the right; the knee-jerk was exaggerated upon both sides, but there was no ankle-clonus. Sensibility was undisturbed. The cutaneous reflexes generally were enfeebled. The vesti-

cal and rectal functions were maintained. In the progress of the case the paresis of the right upper extremity increased. The uvular, palatal and pharyngeal reflexes were wanting. The tongue was protruded properly. The chin-jerk was preserved. Both deglutition and articulation were effected normally. The corneal and conjunctival reflexes were active. The sense of smell and also of taste was scarcely as acute upon the right side as upon the left. There was a conspicuous tendency to somnolence. In the course of the disease a sense of numbness in the right arm was complained of, and on examination it was found that painful and tactile sensibility was diminished in the right hand, the whole of the right arm, the right half of the back and chest, the right side of the face and the right half of the tongue. In slighter degree the sensibility of the right foot also was impaired; on the other hand, the disturbance was more marked in the right leg and thigh. The grasp of the hand was greatly enfeebled, and there was considerable difficulty in moving the right arm. The knee-jerks were still active on both sides. The cutaneous reflexes had become feeble on the right than on the left. Later, numbness and weakness, with ataxia and impairment of sensibility, appeared in the left lower extremity, and the head became tremulous. Symptoms of typhoid fever made their appearance, and death ensued in the sequence of hemorrhage from the bowel. *Post-mortem* examination disclosed, in addition to the lesions of typhoid fever, parenchymatous myocarditis, fibrinous pneumonia of the right lower lobe, pulmonary edema, nephritis, hepatitis, parenchymatous gastritis, and chronic diffuse interstitial encephalitis. On section, both brain and cord appeared remarkably firm. On transverse section through the upper portion of the pons, the vessels were seen to possess an unusually large lumen, and the surrounding tissues presented a grayish-red color. In the middle of the medulla-oblongata a similar grayish area was found. No gross microscopic change could be detected in the spinal cord, and bacteriologic examination yielded negative results. A number of the peripheral nerves examined were found to be normal. After preservation of the cord for several days in Müller's fluid an extensive area of degeneration in the cervical region became visible, extending forward to the posterior commissure, on the right to the median limit of the right posterior horn and backward close to the periphery. The area corresponded to the second and third cervical segments, and had a vertical extent of rather more than half an inch. After preservation for four months in Müller's fluid scrutiny of sections showed in the affected areas a morbid process arising from the vessels and leading to swelling of the nerve-fibers. Many of the medullary sheaths were thickened, and the axis-cylinders shared in the swelling. Some of the medullary sheaths, on the other hand, were reduced in size, and some of the axis-cylinders deprived of their myelin. These had evidently passed through the stage of swelling. In the dorsal region of the cord there existed a diffuse sclerosis of considerable degree, with degeneration and atrophy of numerous ganglion-cells in the anterior horns. The sclerosis involved

also the anterior columns and the anterior portion of the lateral columns. A similar process was present in the lower part of the cervical region. The blood vessels passing in the septa from the periphery of the cord into the posterior columns were filled with blood and surrounded by granule cells and fatty detritus. In the diseased areas were present numerous small vessels surrounded by one or more layers of round cells. The changes corresponded in general with those found in acute myelitis, as well as passive swelling in consequence of edema. The presence of old diffuse sclerosis is accepted as evidence that the acute lesions represented the beginning of the sclerotic process. The sequence of events is believed to have been a perivascular inflammation, resulting in injury to the adjacent nervous structures, and inducing, especially, a disintegration of the medullary sheaths, the axis-cylinders in general persisting. Secondly there resulted a reactive interstitial hyperplasia.

Pulsating Vessels in the Pharynx.—This unusual anomaly was observed by MCBRIDE (*Edin. Med. Jour.*, December, 1896,) in three cases. In the first of these a large arterial trunk could be felt in the right posterior pillar of the fauces. There was a systolic but no diastolic aortic murmur. The second case was that of a man who presented a fluctuating and pulsating tumor in the region of one tonsil. It was thought that it might possibly be aneurismal, but upon operation it was found to be a cyst. In the third case the pulsation was evidently due to an anatomical abnormality. In this case there was also a systolic aortic murmur, and the carotid, subclavian, axillary, and brachial arteries showed marked pulsation.

The occurrence of pulsation in the pharynx is of considerable clinical importance. No one would be likely to plunge a sharp instrument into a pulsating tumor in this region without most careful examination and consideration, but the existence of arterial abnormalities such as those spoken of should be recognized by all practitioners who may be called upon to treat an acute throat affection:

Pulmonary Insufflation.—Operations upon the thoracic organs could be easily performed if it were possible to open the pleural cavity without disturbing the physiologic construction of the lung. TUFFIER and HALLON (*Gas. Hebdom. de Méd. et de Chir.*, November 26, 1896,) have accomplished this object by insufflation in numerous operations upon dogs. After a dog is chloroformed, a long copper tube is passed through the mouth into the larynx and connected with a bellows. Artificial respiration being thus established it is possible to open the pleural cavity, explore it by means of an electric light, and perform various operations upon the esophagus, the sympathetic and pneumogastric nerves, etc. This artificial respiration has no injurious effect upon the pulmonary circulation, and the dogs thus operated upon recovered perfectly.

THERAPEUTIC NOTES.

An Epidemic of Soor and its Treatment.—GROSZ describes an epidemic of soor which occurred in the Ma-

ternity Hospital at Budapest. Within two years 233 of the 715 infants born were affected with soor. The most carefully carried out prophylactic and hygienic measures, such as cleansing of the rooms and their disinfection by means of sulphur and thorough airing; the care of the children by special nurses, and frequent washing of the nipples, had only a temporary effect on the outbreaks of the disease. It was only after the daily brushing of the mouths of all new-born children with a one per cent. solution of nitrate of silver that the epidemic was brought under control. The few cases which then developed were of a milder character, and recovered after they had been swabbed daily with a 2-3 per cent. solution of nitrate of silver. No unpleasant effects of the treatment were observed. (*Jahrb. f. Kinderheilk.*, Bd. 42, 2.)

The Care of Premature Infants.—SCHMIDT describes his treatment of an infant born seventy days before full term, weighing at birth 1,490 grammes and at the end of the first year 7,000 grammes. At that time it was in perfect health and had already six teeth. The success of his treatment rested upon the two points of careful maintenance of warmth and feeding with the milk of its mother. The heat of the child was preserved not only by warm flannel clothing, hot bottles and a position of the basket near a warm stove, but by the avoidance of all unnecessary cooling, *e. g.*, in washing, in the changes of the temperature of the room, etc. Until the child was old enough to nurse, the milk was drawn from the breast by an ordinary glass pump. (*Jahrb. f. Kinderheilk.*, Bd. 43, 3 u. 4.)

The Treatment of Warty Growths of the Genitals.—W. S. GOTTHEIL, in a paper on Epithelioma of the Penis, read before the Society for Medical Progress, November 14, 1896, concludes as follows:

1. Warty growths of the genitals, more especially in the male, are always to be suspected of malignancy, no matter how innocent they seem.
2. They should either be left entirely alone or be thoroughly removed by knife or cautery.
3. Imperfect attempts at destruction by nitrate of silver, carbolic acid, etc., are especially to be avoided, as in many recorded cases they have apparently stimulated a benign growth into malignant action.—*International Journal of Surgery*, January, 1897.

In the Treatment of Lobar and Lobular Pneumonia VÉRET (*Archives de Médecine et de Pharmacie Militaires*, September, 1896, p. 158) recommends the inhalation for ten minutes six times in the twenty-four hours of the following formula in spray:

Creosote	.....	¼ ounce
Phenic acid	.....	80 minims
Alcohol	.....	.....
Glycerin	.....	1 ½ ounces
Alcohol, 95 per cent.	.....	6 ½ ounces

When the solution is to be employed it should be diluted with an equal quantity of distilled or filtered water. It is important that all of the constituents should be of the utmost purity.

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SATURDAY, FEBRUARY 20, 1897.

THE SCOPE AND PURPOSES OF THE RECENT ACTION OF THE NEW-YORK BOARD OF HEALTH.

To anyone who reads carefully and thoughtfully the recent announcement of the New York City Board of Health, printed in the MEDICAL NEWS of January 23d, in which the necessity for municipal supervision of tuberculosis is set forth, it would seem that no further argument was necessary in order to gain cordial approval of its action. If the history of the movement of the Board looking to the more intimate supervision of this disease is reviewed, the fact becomes apparent that in making its regulations a part of the sanitary code, the Health Department was simply legalizing measures that had already been in operation under successive resolutions of the Board extending over a period of several years. To thoroughly understand the situation, it is important to review briefly the progress of this movement.

The first official action by the Health Department regarding pulmonary tuberculosis was taken in 1889, when a resolution was passed calling upon the consulting pathologists of the Department for a report on the methods to be adopted for the prevention of the disease. A communication

on this subject was prepared by T. Mitchell Prudden, Henry P. Loomis, and Hermann M. Biggs, and presented to the Board. In this special emphasis was laid upon the following facts:

1. That tuberculosis is a distinctly preventable disease.
2. That it is not directly inherited, and
3. That it is acquired by direct transmission of the tubercle bacillus from the sick to the healthy, usually by means of the dried and pulverized sputum floating as dust in the air.

The measures then suggested for the prevention of the spread of tuberculosis were (1) the security of the public against tuberculous meat and milk, attained by a system of rigid official inspection of cattle; (2) the dissemination among the people of the knowledge that every tuberculous person may be a source of actual danger to his associates, if the discharges from the lungs are not immediately destroyed, or rendered harmless; and (3) the careful disinfection of rooms, and hospital wards, that are occupied, or have been occupied, by phthisical patients.

It was determined first to follow the second suggestion only, namely, the dissemination of knowledge among the people regarding the nature of tuberculosis. Circulars were therefore prepared and widely distributed, and certain measures were taken in regard to the recording of houses in which tuberculous patients had died. No further action was taken by the Health Department until 1893, when a communication was received from the Pathologist and Director of the Bacteriological Laboratory, which contained statements and recommendations that were adopted on February 13, 1894, and were, under resolution of the Board, put into force.

These declared positively that tuberculosis is a communicable disease, that all cases presented at hospitals or dispensaries must be reported to the Board of Health, and that rooms in which patients have died of tuberculosis must be disinfected to the satisfaction of the Board before they can be again occupied. A notice was also printed and affixed to the entrance doors of infected apartments in tenement houses, declaring the premises infected and forbidding the rooms to be occupied until disinfected. Nothing could be better calculated to impress the ignorant denizens of the tenement houses with the fact that tuberculosis is a communicable disease than these official placards. These people were already accustomed to similar notices in

connection with smallpox, typhus fever, diphtheria, etc., and the signature of the Board of Health carried with it a feeling of terror.

The Board, since that time, has been carrying on this work, acting under the resolutions of that date. More than 4000 cases of tuberculosis were reported during the first year; something over 5000 during the second year, and nearly 8500 during the third year. The premises where these cases occurred, and also the premises where deaths from tuberculosis occurred—numbering nearly 6000 each year—have, so far as has been possible with the force of inspectors at command, been inspected, the families and the individuals have been instructed, and, where premises which have been occupied by consumptives have been vacated by death or removal, they have been placarded to prevent re-occupation, when it was considered necessary, and orders have been issued for their renovation. Very great progress has been made in this matter during these years, and in certain of the tenement-house districts of the city information in regard to the nature of pulmonary tuberculosis, and the methods of its extension, and the means to be taken for its prevention, have been widely disseminated. It is reported by inspectors that among the more intelligent of the tenement-house population more or less efficient precautions are being now observed. Moreover, the statistics of the Health Department in regard to pulmonary tuberculosis show that there has been a steady and continuous fall in the death rate for a series of years, altogether amounting to more than thirty per cent., and it is the firm conviction of the Board that by the intelligent enforcement of proper measures this disease may be, within a few years, restricted to far narrower limits, and that the enforcement of these measures will in nowise work a serious hardship to the sufferers from it. Great obstacles have been met with in the prosecution of this work, owing to the lack of facilities for the care of cases of pulmonary tuberculosis, which are of such a nature as to be dangerous sources of infection to other persons; and also owing to the fact that, as the action of the department was under resolution, and not a provision of the Sanitary Code, the recommendations and requirements could not be legally enforced. Many cases were being constantly reported by the inspectors where persons in the poorest circumstances, or under the most unfavorable hygienic conditions, suffering

with advanced pulmonary tuberculosis, persistently ignored or neglected the simple and obviously necessary precautions for the prevention of the spread of the disease. Large numbers of other persons were frequently being exposed to most dangerous infection in workshops and in the crowded tenement-house districts, and the department was helpless to interfere. To enable the Board to enforce these salutary regulations, they were incorporated as a part of the Sanitary Code on January 11, 1897, as follows:

"Section 225. That pulmonary tuberculosis is hereby declared to be an infectious and communicable disease, dangerous to the public health. It shall be the duty of every physician in this city to report to the Sanitary Bureau, in writing, the name, age, sex, occupation, and address of every person having such disease who has been attended by, or who has come under the observation of such physician for the first time, within one week of such time. It shall also be the duty of the commissioners or managers, or the principal, superintendent, or physician of each and every public or private institution or dispensary in this city to report to the Sanitary Bureau in writing, or to cause such report to be made by some proper and competent person, the name, age, sex, occupation, and last address of every person afflicted with this disease who is in their care or who has come under their observations within one week of such time. It shall be the duty of every person sick with this disease, and of every person in attendance upon anyone sick with this disease, and of the authorities of private institutions or dispensaries, to observe and enforce all the sanitary rules and regulations of the Board of Health for preventing the spread of pulmonary tuberculosis."

It has evidently not been the policy of the Health Department in the past, nor, we infer, is it its purpose in the future, to inspect or interfere in any way with those cases of pulmonary tuberculosis which are under the regular supervision of a medical attendant, especially those dwelling in private houses, which are not active sources of danger to others. It has been stated that the *sole source of danger* in pulmonary tuberculosis is the *sputum*, and that if this be properly destroyed, a consumptive may be free of danger to his most intimate associates.

The importance of a special hospital for the care of cases sufficiently advanced to become sources of infection is presented by the Board in its announcement, as:

The importance of provision for the separate care of persons suffering from other forms of communicable disease has long been universally admitted,

and the maintenance of separate hospitals for these diseases is justly recognized as one of the most effective of the sanitary measures for securing public safety. There are most urgent reasons why similar measures should be adopted in dealing with pulmonary tuberculosis.

A large experience in this matter has shown that in institutions devoted solely to the care of consumptives, the general welfare of the patients is more easily fostered, the risk of fresh infections more certainly diminished, and the chances for recovery more surely enhanced than in general hospitals in which all classes of cases are received.

We believe that such an institution in charge of the Health Department would secure all these advantages, without encroaching in any way upon the province of the institutions *now caring for such patients*, and would contribute, as no other measure can do, to the success of the endeavor of the Department, now pursued in the face of hopeless obstacles, to curtail the ravages of pulmonary tuberculosis in New York.

This is the feature of the announcement that has met with criticism on the plea that it is not the function of sanitary authorities to treat disease, and therefore no hospital is necessary. It is submitted in all candor that the treatment of the disease is not the object aimed at in this recommendation, but a place in which the extremely infectious cases can be isolated from the healthy members of the community and have proper surroundings and care. To accomplish this in some instances, and these the most urgent, it is necessary to be armed with the authority of the law, and in order to keep patients under restraint the Health Board must have a hospital under its own control. The Commissioners of Charity have no authority to restrain a patient or compel him to remain in a hospital against his will.

THE DISPENSARY AS A FINANCIAL INSTITUTION.

THE real objection raised to the present method of conducting dispensaries is based upon the fact that from the objector's standpoint they do too much business and he too little. The natural wish is, therefore, to reduce the amount of the business done by the dispensaries in order to increase that done by the doctors. A very little thought will convince any one that it is hopeless to persuade the dispensary physician to change the present system. The number of men who will be willing to spoil their own

dispensary classes for the rather uncertain possibility of benefiting some other physician must ever remain small; and attempts of this sort if engaged in by a few dispensaries will result principally in building up the attendance at the other dispensaries.

To be absolutely candid, running a dispensary is a business, and not so bad a business either. Ten cents from every patient will almost pay the running expenses of a large dispensary if only simple appliances and inexpensive drugs are used. Add to this the allowance granted by the city, and the deficit remaining to be made good by private contribution is not great.

Now if it is really desired by the medical profession of New York City to cut down the number of dispensary patients the way to do it is to cut off the revenue of the dispensaries. This might be done in two ways: the mildest measure would be to withhold city aid from any dispensary which accepted from the patient a fee for treatment, for medicine, or for dressing. A more radical measure would be to make it illegal for any dispensary to accept any money from a patient. Either of these plans is practical and could be carried out without difficulty. The result would be that some of the dispensaries would be obliged to close altogether, while others would have to curtail expenses and treat fewer patients. The effect upon the patients who did attend would be that they would recognize in the dispensary a *charitable* institution. At present most of the patients who pay ten cents think that they have settled their full obligation. It is no uncommon experience to hear some woman at a dispensary confess with mortification that she has no money and will have to accept charity, when for weeks she had been coming joyfully with her ten cents, holding her head erect as befitting one who pays her just debts.

This is not an argument either for or against dispensary practice, but simply a suggestion regarding ways and means. These institutions occupy after all somewhat the same relation to the physicians of the city as the department stores do to the small shopkeepers. If it is the determined wish of a majority of the profession materially to reduce the amount of business done by the dispensaries an efficient and thoroughly business-like way, to accomplish it is by putting in force some such financial measure or measures as those suggested above.

**RECENT PROGRESS IN DERMATOLOGY;
SOME PARASITIC DISEASES.**

It is a good thing for our peace of mind that we are provided with limited vision so that we cannot see all the forms of life that exist about us and on us, ready at all times to invade our bodies. J. F. Payne of London, in a recent address (*Brit. Jour. Dermat.*, 1896, viii, 267) applies the apt term "Bacterial nurseries" to those regions of the body that are prone to harbor parasites, such as the skin between the toes and under the nails, the scurf of the scalp, the perineum, scrotum, and adjacent parts. In all these locations the skin is more or less constantly warm and moist and well fitted to give lodgment to microorganisms which are harmless until the proper conditions arise to render them actively virulent. Impetigo contagiosa derives its highly contagious character, according to Payne, from a gradually evolved virulence. A healthy young person, for instance, may have a wound on his foot. Influenced by the saprophytic cocci of the part this sooner or later suppurates. Cocci cultivated in this local inflammation become sufficiently virulent to produce vesicles and pustules in the neighborhood; these, transferred by the nails to the face, develop classical impetigo contagiosa lesions. Transference from one case to another in rapid succession heightens the virulence of the organisms and produces the specific disease.

Eczema is not regarded by Payne as a parasitic disease. Its bilateral symmetry, its manner of spreading, often appearing suddenly in widely separated parts, the marked influence on it of nervous disturbances and digestive disorders, and the absence or rarity of instances of contagion separate it sharply from the class of parasitic diseases, such as ringworm. But without doubt certain clinical features may be impressed upon it by saprophytic organisms which, in consequence of some preliminary disturbance of nutrition, acquire pathogenic properties. Like impetigo contagiosa, eczema is prone to start from the scalp, feet, and genitals, and it is probable that all eczemas are locally infective. It is rare that the microbes found in eczema—and several of them have been found—acquire virulence enough to become contagious to others.

It is only in the past few years that we have been wakened from our dream that ringworm was caused

by one parasite, the trichophyton. But now each year seems to bring to our knowledge new varieties of microorganisms giving rise to the clinical picture of ringworm. Fox and Bloxall (*Brit. Med. Jour.*, 1896, viii, 241, *et seq.*) have been investigating the subject along the road blazed out by Sabouraud. They find that his microsporon is readily recognized, and causes about eighty to ninety per cent. of all the ringworm cases in London. They have found it not only in scalp cases, but also in cases on the glabrous skin of the face, neck, and shoulders. This form of fungus affects children chiefly.

Krosing (*Archiv. f. Derm. u. Syph.*, 1896, xxxv, 184) on the other hand, after an exhaustive study, says that Sabouraud's division of the trichophyton into large and small spored varieties is not justified, as the spore formation varies in the same fungus and in the same culture. With this also falls the division of the human trichophyton according to location. Both deep and superficial inflammations are caused by the same fungus, and we therefore cannot diagnose the clinical forms from examination of the fungi. Waelsch (*Archiv. f. Derm. u. Syph.*, 1896, xxxv, 23) declares that the trichophyton grows not only in the hair but also in the corneous cells of the hair follicle, and by its growth sets up inflammation, a folliculitis and perifolliculitis. The amount of inflammation depends upon the anatomical structure of the part, being most intense in the beard where the subcutaneous tissues are loose, and the blood supply abundant. The tightness of the subcutaneous tissues of the scalp makes it a poor ground for deep inflammation. Pus cocci take no part in the inflammation set up by the trichophyton. Like Krosing, he holds that it is not possible to differentiate specific forms of ringworm as due to specific forms of fungus. In this view he is supported by M. Pelagatti (*Monatshft. f. prakt. Derm.*, 1896, xxiii, 515) who says that it is impossible to tell from the clinical appearances of a lesion to which fungus it is due, as every variety of fungus can produce the same clinical form.

While it is somewhat discouraging to find such varying opinions emanating from such skilled observers, it is evident that there is more than one form of fungus causing ringworm.

We have been familiar for a great many years with the microsporon furfur as the cause of chromophytosis, or tinea, or pityriasis versicolor, but nevertheless

it has been found impossible to obtain a pure culture of it. This has at last been done by T. Spietschka (*Archiv. f. Derm. u. Syph.*). Not only has he made a pure culture of it, but he has reproduced it by inoculation in one case, and from the fungus in this case made a pure culture.

GEORGE THOMAS JACKSON, M.D.

ECHOES AND NEWS.

A Cure for Rinderpest in Cattle.—Dr. Koch announces from South Africa that he has found an antidote or prophylactic for rinderpest in cattle. It consists of the injection of serum into the veins, which gives immunity within a fortnight.

German Drugs.—The *German Journal of Pharmacy* estimates that 117 new remedies were introduced on the market during the four months of May, June, July, and August, 1896. It is very evident that serum-therapy has not entirely monopolized the field yet.

Surgeon-Dentists Exempt from Jury Duty.—A bill has been introduced in the New York Legislature extending to all surgeon-dentists the same exemption from service as trial jurors that is now accorded to physicians, pharmacists, and veterinarians throughout the State.

The Medical Profession in France.—It is proposed in some of the French medical journals to establish among the doctors of France a professional Court of Honor. The functions of this order will be to purge the profession of disreputable members, to suppress disreputable practices, and in general to take the part of a keeper of the professional conscience.

The Bacillus of the Bubonic Plague Easily Destroyed.—Dr. Roux, head of the Pasteur Institute, Paris, gives the encouraging news that the bacillus of the bubonic plague has little power of resistance, and that all antiseptics kill it. It dies at a temperature of 140°F., but it retains vitality in the soil, which is an explanation of the fact that it is never eradicated from Eastern countries.

Anti-diphtheritic Serum in Solid Form.—The latest announcement of Behring is that he will in future supply serum in solid form. The advantages are that no antiseptic will be necessary to preserve it. Thus modified it will not undergo any change for an indefinite time, and the accidents which sometimes resulted from its use, and which were attributed to the antiseptics, will be avoided.

Precautions Against the Plague.—The Russian government has forbidden pilgrimages of Moslems to Mecca through Russian territory, and has also forbidden Russian Christians to visit the shrines in the East. These measures are taken as a precaution against the bubonic plague, and cordons of officers have been assigned to closely watch the Russian frontiers to prevent the introduction of the plague.

Professor Nocard of Paris an Authority on Tuberculosis.—The Faculty of Medicine of Paris has conferred the Lacaze prize amounting to \$2000 upon Professor Nocard for his recent work upon tuberculosis. His original contributions to this subject consisted in discovering, in connection with Roux, that the tubercle bacillus could be cultivated in a glycerin medium so that its properties could be studied and tuberculin obtained in large quantities.

The Decadence of the Cigarette.—An anti-cigarette bill has passed the Lower House of the Tennessee Legislature by a unanimous vote. It prohibits absolutely the sale of cigarettes and of cigarette papers in the State. The law goes into effect May 1, 1897. A wide movement is on foot in the public schools of the country whose aim is not only to enlighten the children regarding the injurious effects of cigarettes but also to secure signatures to a written pledge of abstinence from their use.

New York Academy of Medicine.—At the meeting of the Academy held February 4th, the retiring President, Dr. Joseph D. Bryant, made some valedictory remarks, and the President-elect, Dr. Edward G. Janeway, was inaugurated. In his address Dr. Janeway suggested the desirability of establishing a pathological laboratory at the Academy for the service and convenience of the members, and recommended that a committee be appointed to consider the vexed question of medical experts in criminal trials and bring the subject before the Academy for general discussion.

The New York Hospital for Ruptured and Crippled.—We learn from the thirty-third annual report of this institution that 10,592 new patients were recorded for treatment during the year ending September 30, 1896. It is also stated that the extraordinary demands made upon the Hernia Department since the operation of laparotomy has become so popular makes it very difficult to supply with abdominal belts and supporters of all kinds the large number of patients requiring them. It is noticeable that a large proportion of the imperfect abdominal walls resulted from operations for appendicitis.

Fortunes of British Physicians.—The *Practitioner* records the following amounts devised by doctors in England who have died during the year 1896: Dr. Patrick Fraser, \$2,100,000.00; Sir John Erichsen, \$450,000.00; Sir George Humphry, \$400,000.00; Dr. Samuel Holdsworth, \$265,000.00; Dr. William Statten, \$200,000.00; Dr. George Harley and Sir William Moore each \$125,000.00; Sir George Johnson and Sir Russell Reynolds each about \$60,000.00. The comment is made by the same authority that these fortunes were not made so much by the accumulation of fees as by judicious investments.

The Weber-Parkes Prize and Medal.—We learn from the *British Medical Journal* that in 1894, Dr. Hermann Weber presented to the Royal College of Physicians of London, the sum of £3000 to found a prize for the best essay on some subject connected with the etiology, prevention, pathology, cure or treatment of tuberculosis, in mem-

ory of the late E. A. Parkes, M.D. The prize is to be awarded triennially, and the value will be about £150 (\$750). A bronze medal will accompany the prize, and a second medal will be awarded to the second best essay. The competition is open to the medical profession of all countries. The first award will be made this year.

Death of Dr. Bourgoin.—Dr. Edwin Bourgoin, the famous French chemist, died in Paris February 11, 1897. He was one of the most distinguished of French physicians. For some time he ardently opposed the theories introduced by Pasteur. He was born in 1836. His medical education was received under the Faculty of Medicine and Pharmacy at Paris, and in 1879 he was named as Professor of Pharmacy in the latter institution. He was elected a member of the Academy of Medicine the same year. In 1867 he was chosen as head of the Children's Hospital, and in 1881 as a member of the Public Council of Hygiene. He was decorated with the ribbon of the Legion of Honor in 1880, and was made an officer of the Legion in 1891.

Government and State Aid Asked for.—A report adopted at the second Pan-American Congress, held last November at Mexico City, has been presented to the United States Senate regarding a Department of Public Health for the United States. The bill proposes gathering information from every possible source relating to public health, sanitation, food, and diseases. It asks the appointment by the President of a statistic and compiling secretary, at a salary of \$8000, with an assistant at \$5000. The information thus gathered is to be published for issuance each week. The committee in addition recommends the passage of uniform laws, National and State, regulating the importation, exportation, sale, and inspection of food, laws regarding the sale of drugs and chemicals, sanitation of railroad cars, hospitals, and jails, and an appropriation of money by the States and General Government for the scientific investigation of public health matters in this and foreign countries.

The Annoyances of European Quarantine.—A traveler who arrived at Trieste on an Austrian Lloyd steamer a few weeks ago has involuntarily acquired a large amount of the sort of fame which results from the baffling of public curiosity. He was from Bombay, and the Italian authorities were intensely alarmed lest he had brought the bubonic plague along with him. At first they refused to let him land at all, but finally permitted him to do so, on condition that he submit to a dreadfully thorough course of disinfection and would promise to continue his journey in a private car into which he and his baggage should be carefully sealed. To this he consented, and in his prison on wheels, which was placed between the engine and the baggage car, he started for the north. At Udine, the formalities of inspection and fumigation were again carried out. At Verona the process was repeated, and then Milan's officials tried their hands at the work before sending him on toward the Swiss frontier. There they were still more cautious, for they refused to let him enter the republic on any terms whatever. So back to Milan

he was taken, still in the sealed car. Here the farce ended, for after a fifth examination and disinfection the man was released and permitted to go where and as he chose.

CORRESPONDENCE.

"A REVOLT AGAINST THE LODGE."

To the Editor of THE MEDICAL NEWS.

DEAR SIR: The editorial published in THE MEDICAL NEWS for January 2, 1896, relative to "A Revolt Against the Lodge" was read with much interest, and a hearty response is made to your plea, for we are so unfortunate as to have a doctor (?) here who recently, upon the instituting of a new beneficial lodge, offered to examine the first twenty-five free of cost. It is needless to add that the offer was accepted, and that he is now the official examiner.

What chance have we, who are anxious to better our condition, when such a freebooter is in our midst? He is beyond the pale of censure, for he was expelled from our County Society some six years ago for inciting a malpractice suit.

This is merely a line of congratulation; I write you that you may know of a new evil in the contract field of lodge work.

Yours truly,

J. O. HOWELLS, M.D.

BRIDGEPORT, OHIO,
January 6, 1897.

OUR PHILADELPHIA LETTER.

[From our Special Correspondent.]

MEETING OF THE PHILADELPHIA PEDIATRIC SOCIETY—UNILATERAL TUMOR IN CHILDREN—RECOVERY FROM CERVICAL PACHYMEINGITIS—PASTEURIZATION OF MILK—NOMA—ENURESIS—MEETING OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY—THE HOSPITALS, THE DOCTORS, AND THE COMMUNITY—DR. J. P. MANN APPOINTED PROFESSOR OF CLINICAL ORTHOPEDICS IN THE MEDICO-SURGICAL COLLEGE.

FEBRUARY 13, 1897.

AT a stated meeting of the Philadelphia Pediatric Society, held February 9th, Dr. J. P. Crozer Griffith presented two cases of unilateral tremor in children. In neither instance could a satisfactory explanation be given of the etiology of the condition. In the first patient shown, a lad of about ten years of age, the tremor, presumably post hemiplegic, could be demonstrated as being always present in the left hand and arm, but could not be shown in the foot and leg of the same side except on attempted motion, when, as in the arm, it was plainly evident as a coarse ataxic movement. The tremor in the second case involved the left arm and leg, and side of the neck, was always present, and was made coarser and more striking on attempting volitional movement.

A case of recovery from cervical pachymeningitis was shown by Dr. Alfred Hand, jr. This case in its inception several years ago had been variously diagnosed as hysterical paraplegia, amyelotrophic lateral sclerosis, etc., but its course and development, with the added symptom of pain, finally confirmed the diagnosis first given.

Dr. J. P. Crozer Griffith in a paper on Pasteurization of milk, explained the theory and practical workings of the Freeman Pasteurizer. An outer receptacle of tin contains a measured quantity of water which is brought to the boiling point. In this are placed eight or ten zinc cylinders containing bottles, holding the milk to be Pasteurized, which stand in water the temperature of the room. The whole apparatus is covered and set away out of a draft on a non-radiating substance. In about fifteen minutes the boiling water has conveyed enough heat to the milk to raise it to 155° F., the best heat for this process, and it is maintained at that temperature for the remaining time. The bottles are now taken out and cooled under running water, then put away on ice to be used as desired. Pasteurization by this apparatus Dr. Griffith considered the best means of rendering milk free from bacterial infection, but when this or similar appliances could not be had, he believed sterilization to be the better process, for, in unskilled hands the regulation of the temperature could not be relied upon.

A case of noma was reported by Dr. C. H. Weber. The points of interest in the case were (1) the inability to establish any causal factor for the lesion; (2) the remarkable vitality of the patient, which was fully sustained until the growth had assumed such proportions as to mechanically interfere with the taking of nourishment; (3) the remarkable rapidity of the growth and its intractability to treatment; (4) the fact that, although involving almost one-half of the area of the face, the median line had not been traversed.

In a paper on enuresis, Dr. J. H. McKee, after reviewing the physiology of the act of micturition, divided the causes of this condition into (1) malformations of any part of the genito-urinary tract that would interfere with the proper functioning of this system; (2) developmental or acquired disease of the central nervous system which would tend to disturb the normal equilibrium of the centers of control; (3) functional disturbance arising from such conditions as rickets, tuberculosis, or valvular heart disease; (4) nutritive disorders, such as disease of the gastro-intestinal tract; (5) faulty metabolism from any cause.

The practice of removing the prepuce with the idea that nocturnal incontinence of urine could be remedied in all cases by this means, Dr. McKee considered unwise in the extreme. For the treatment of this condition the remedy of the underlying cause should be effected, and the proper tone given to the spinal centers by alternating hot and cold douches to the spine, strychnin in tonic doses, and electricity, if required. As a simple remedy, but one that had proved remarkably successful in his hands, Dr. J. F. Prendergast mentioned cold douches to the spine just before retiring. In a series of almost 100 cases of nocturnal incontinence of urine treated by this method alone, full control of the bladder had been established within a very short time after the commencement of the treatment.

At a meeting of the Philadelphia County Medical Society held on February 10th, Dr. Edward Jackson read a paper on "The Hospitals, the Doctor, and the Community," which evoked considerable discussion without a con-

clusion being arrived at that would satisfactorily adjust the relationship between these three components of our civilization. This question as to how medical charity can be bestowed so that only the deserving shall be benefited and at the same time the interests and welfare of the medical profession shall be best protected, is one of vital importance, especially to the young and struggling practitioner.

That many a patient is treated free of charge, especially in the dispensaries, who is well able to pay for medical attendance, is a matter almost too well known to repeat. That positions in dispensary or hospital practice are never allowed to go begging by the medical profession is another well known fact. Strange though it is that these two conditions should exist at the same time, it would appear as though the latter is the outcome of the young practitioners having to accept the first postulate as the inevitable, with the full knowledge that though his pocket may suffer for the present, the experience gained by so doing may, and in the majority of cases will, offset this loss in the future. A remedy that might prove effectual in the dispensary evil, at least of sufficient merit to warrant a trial, was suggested by Dr. John B. Roberts. The applicants for attendance are treated once, and then told that the treatment will not be continued unless they can return with a form filled out by two reputable citizens to the effect that they are deserving of the charity they seek.

At a meeting of the Board of Trustees of the Medico-Chirurgical College held on February 8th, Dr. James P. Mann was unanimously elected clinical professor of orthopedics in that institution. For a term of years Dr. Mann has been connected with the Jefferson Medical College as chief of the out-patient orthopedic department and instructor in orthopedic surgery.

OUR PARIS LETTER.

[From our Special Correspondent.]

RANVIER'S LECTURES ON CICATRIZATION OF WOUNDS—THE DREAD OF BEING BURIED ALIVE—URATIC AND PHOSPHATIC BONE DEPOSITS DEMONSTRATED BY THE ROENTGEN RAY—ANALYSIS OF FRENCHMEN OF GENIUS FROM LOMBROSO'S STANDPOINT—THE X-RAY NOT BACTERICIDAL.

PARIS, January 26, 1897.

Professor Ranvier at the College de France is just finishing a course of lectures explanatory of his recent work on cicatrization that has been extremely interesting. In a note to the Academy of Sciences in 1891, he published the result of his observations on the repair of wounds of the peritoneum and gave his beautifully simple description of what he considered, at the conclusion of his experiments, to be the real explanation of the healing of tissues by first intention—not an organization of the exudate that had been poured out; not a budding of the connective tissue elements of the part (for that would not occur for three or four days, and healing by first intention takes place in twenty-four to forty-eight hours), but a real healing by primary adhesion. He believes that the connective tissue

cells in the edges of the wound send out prolongations along the scaffolding of fibrin that has been formed by the more or less hemorrhagic exudate which has been poured out as a consequence of the irritation of the wounded tissues, and these prolongations meet and fuse to form the cicatrix.

He now returns to the subject with the study of non-penetrating wounds of the cornea. Here, too, there seems to be, normally, no production of new elements in the process of repair. Nature seems to make use of a simple mechanical process to obtain the elements necessary to fill the gap between the edges of the wound. Ranvier first noticed that the cornea at the edges of the wound seemed to be thinner than at other points. He then demonstrated by accurate micrometric measurements that this thinness at the edges was real and not apparent. This condition of affairs exists within a couple of hours after the wound has been made, and when the surface of the wound, if it is small in size, is already covered with a thin but complete layer of epithelial cells. The appearance is just the opposite of what would be found if there had been an irritative hypertrophy for purposes of repair. The origin of the layer of cells covering the wound was then traced to the exit through the severed edges of the irregular corpuscular bodies that exist in the cornea, an agglutinative material that exuded at the same time serving to fasten them to each other and to the wounded tissues. The mechanical pressure caused by the slight change of curvature of the cornea in the neighborhood of the wound is the prominent factor in causing the liquid and cellular exudate. The whole subject is beautifully worked out in detail and the slides that illustrate his lectures are striking examples of scientific experimental pathologic histology. The suggestion is inevitable that the process of cicatrization may be a much simpler one than it has been considered to be up to this time, and that though it is one of the subjects on which perhaps most work has been done there remain interesting discoveries yet to be made.

Once in a generation, Sir Henry Thompson says, there comes over the public a wave of awesome dread of being buried alive. This present generation in France, or at least in Paris, would seem to be in the midst of this wave just now. It is almost unusual to pick up a newspaper of any kind which does not contain a discussion of this gruesome subject from some point of view. Certain medical men have not hesitated to add to the interest of the public by allowing themselves to be interviewed on the subject and have reaped the benefit of the free advertisement that accrued. Even French medical men are but human. I should expect by this time that interest in the subject would begin to be aroused in America, for there is an epidemiology of ideas as well as of disease and, like empire, they are prone to take a westward course. The really interesting thing that has come out in the excitement is the expression of opinion of Professor Brouardel, the Dean of the Faculty and distinguished author of a number of works on legal medicine. He said in an interview the other day that after a careful investigation into all the reported cases of 'buried alive' in medical and other literature there was only one case that seemed absolutely authen-

tic, and but very few other cases where there seemed to be doubt.

Professor Potain showed a series of Röntgen photographs at the *stance* of the Academy of Sciences January 18th that demonstrates the diagnostic value of the X-ray in a medical way from a new standpoint. The cases were a series of gouty bone lesions and the photographs showed that ends of the affected bones were infiltrated with some substance that was much more permeable to the Röntgen ray than is ordinary bone material. A series of complementary experiments made with urates and phosphate of lime contained in boxes, showed this same characteristic difference of absorptive powers in the skiagraphs. Potain suggests that the diagnosis between chronic rheumatic and gouty lesions, often so difficult to make with certainty, may be rendered much easier by this method.

One would be inclined to say that our French brethren have not as lively a sense of the ridiculous as one finds among the Anglo-Saxons. The calm way in which they analyze, for the benefit of the public generally, the character and writings of their living men of genius for the purpose of pointing out any stigmata of degenerescence that may be discoverable, strikes one as not exactly the sympathetic way we indulge the same class of people.

There was an article on Alphonse Daudet not long ago, written from this standpoint, and though in a friendly spirit, it was too much of a vulgarization of the intimacies of private life to be in good taste. Dr. Toulouse's book on Zola, a more extended essay of the same character, has, as might be expected from the well-known character of its subject and the divided opinions held with regard to his work, attracted a great deal of attention. This was doubtless the main purpose of the writer and the written about, so the book must be pronounced a success. Zola seems to have submitted to a most detailed examination, and even to have permitted a rather lengthy series of psycho-physical, psycho-sensorial, and sensorio-physical experiments. The data thus furnished to a sympathetic scientist only serve to bring out clearly the fact that it is genius and not degenerescence that is the basis of the striking if somewhat peculiar character whose writings have attracted such world wide attention, and not always from the standpoint of *pure* literature. The same data however in the hands of the famous Lombroso, the Italian criminologist, serve to demonstrate very clearly the stigmata of psychical degenerescence that lie at the root of Zola's extreme naturalism. Lombroso's review of Toulouse's book, in recent numbers of *La Semaine Médicale*, have been rather spicy reading, although I should not imagine their perusal to be very pleasant to the subject who so ingenuously submitted himself to psychological dissection. To judge from Lombroso's conclusions, given the psychological elements that go to make up Zola's mental being, it was inevitable that his literary productions should have taken on the extreme naturalistic tendencies that they have. In the course of the review there is some discussion of Zola's mental peculiarities and his psycho-physical faculties that are too plain and bluntly outspoken to be pleasant. I do not not think that the notion would be as taking in America as it is here in

Paris, but I feel sure that a detailed account of the items that go to make up the mental balance of some of our popular writers would attract a good deal of attention. *Voilà!* a field for some of our rising young physiologic-psychologists!

Notwithstanding all that has been said of the pretended bactericidal properties of the X-ray, mainly, it must be confessed, in what the French call political journals, no serious experiments have ever confirmed the pretended discoveries. On January 22, Professors Achard and Lannelongue, in a report to the *Société des Hôpitaux*, announced that they had not been able to detect the slightest influence either on the rapidity of growth or the virulence of cultures of microbes exposed for long periods to the action of the ray.

Occasionally, reports appear of cutaneous irritation due to long exposure to the X-ray, sometimes of an extremely unpleasant character, though not very serious. There have even been reports of a depilatory action, so that there would seem to be either a certain personal idiosyncrasy in the matter, of which it would be necessary to take account before exposing the patient to the action of the ray for a long *stance*, or else certain receptive states of the skin or general system that may yet give a clue to therapeutic uses of the wonderful penetrative power of the actinic agent whose history has just begun.

Here seem to be two words that there might be use for in English. The hybrid compound 'tissue-therapy' is replaced by many writers by 'organo-therapy' but it is not the organs themselves that are therapeutic but their secretions, and so the word 'opotherapy' has been suggested by Grasset, *οπος*, meaning sap secretion. Some one spoke the other day of 'the misonism of the veteran practitioner' and it seems such an improvement on our blunt 'old fogysm' or the now more than suspicious 'conservatism' that there would seem to be a long felt want to be filled by it.

TRANSACTIONS OF FOREIGN SOCIETIES.

London.

STRANGULATED HERNIA IN CHILDREN—THE INFLUENCE OF HEREDITY IN NEUROSES—A CASE OF "NON-CALCIFYING PLASTIC OSTIITIS."

At a meeting of the West London Medico-Chirurgical Society, January 8th, PAGET discussed six cases of strangulated hernia in infancy and early childhood. All were males and four of them were less than eight months old. The hernia was in every case an inguinal one, and in three of the six cases the cecum was in the sac.

KETLEY formulated the following rules for similar cases: (1) Operate from the first with the full intention of bringing about a radical cure; (2) cut straight down on the neck of the sac and open it and the peritoneal cavity at the same time; (3) after returning the bowel, separate the sac high up from the cord, tie it there, and then sew up the hernial opening so that it will only just permit the cord to pass through. Preserve the heat of the child, and give a minimum amount of an anesthetic.

MCCANN believed that very few cases ever require operation. He has seen well-marked examples recover after

suspension of the child. He objected strongly to taxis, whether under an anesthetic or not. Taxis is an important cause of gangrene of the bowel. He thought that many of these cases were due to intestinal distention, the result of improper feeding.

At a meeting of the Neurological Society, held January 14th, SAVAGE considered the subject of *heredity in neuroses*. He traced the ideas of heredity from the Darwinian to the Weismann periods, but he could not admit that there is no power of transmitting acquired capacities. He felt that misunderstanding had arisen from the idea of the direct transmission of fully developed habits, whereas all that is transmitted is a capacity or previous disposition for developing these habits. In the transmission of instincts it was shown that some are transmitted but never developed. There may be in fact potential abilities which are never evoked because no stimulus is present. It is thus with some neuroses which lie dormant until some special conditions rouse them into activity. There are also cases in which special forms of mental disorder occur only at certain ages.

The relation of heredity to the neuroses must be traced in various ways, one of the best being a study of the relation of the nervous disorders which often occur in the offspring of the insane and markedly neurotic. The lack of nerve power of various degree is shown by defect of one or the other of the mental factors which may give rise to various forms of idiocy or smaller degrees of mental weakness. Ordinary mania does not seem to have a sufficiently definite physical basis for it to be transmissible. Melancholia, on the other hand, is especially associated with general bodily ailment and is often met with in generation after generation in certain families. The individuals in some families seem to die out in mind before body, and in some there seems to be a capacity for passing on a tendency of recurring melancholia which in the end becomes chronic. Dementia in a different way is often associated with the old age of certain families.

What in some cases looks like direct heredity is after all the result of nervous instability associated with dread and expectancy. This is well seen in some cases of puerperal insanity and in the suicidal tendency recurring in certain families. Heredity is an important factor in the production of neuroses, but their transmission depends as much on the stimulus which evokes the symptoms as on the heredity, and it is this which is so important for the consideration of the physician. There is hope in changing the surrounding of the neurotic and in thus breaking morbid habit or preventing its development.

At a meeting of the Pathological Society, held January 19th, PITTS and SHATTOCK gave the details of an unusual case for which they proposed the name of "*non-calcifying plastic ostiitis*." At the age of thirty-one the patient fell and struck her right leg. Three months later the knee became stiff and painful. She grew worse and was treated in several hospitals. The leg was wasted and flexed at the knee at almost a right angle, the tibia and fibula being displaced backward. The head of the tibia was much enlarged and was movable at the epiphysis upon the shaft, without crepitus but with severe pain. Eight years after

the accident amputation was performed. The patient recovered from the operation and regained fairly good health. The tibia alone of the bones of the body was diseased. Its upper half had undergone a uniform transformation into a minutely cancellar bone-like substance so devoid of earthy salts that it was as pliable as India rubber. The medullary cavity was obliterated. Microscopically it consisted of trabeculae which were surrounded by a definite layer of osteoblasts. The spaces between the trabeculae were occupied by a highly cellular tissue with but few leucocytes.

Pitts and Shattock found it impossible to class the specimen under the heading either of osteomalacia or osteitis deformans. They considered it an osteitis occurring in the adult of a pronounced plastic character unaccompanied by a calcification. Hence the name was proposed of "non-calcifying plastic otitis."

KANTHACK and SPENCER looked upon the specimen as a new growth, either an osteosarcoma or a "myeloma."

BUTLIN thought the specimen illustrated a stage in otitis deformans at which the bones are plastic and the deformity takes place. He thought there was no evidence for regarding this specimen as a tumor, because secondary growths had not occurred.

Berlin.

TWO CASES OF PULSUS DIFFERENS—THE APPLICABILITY OF MUSCULAR EXERCISE IN CASES OF CARDIAC DISEASES.

At the session of the Union for Internal Medicine, held January 11th, GERHARDT reported two cases of pulsus differens occurring in his clinic. One was in an old woman who presented symptoms of mitral stenosis and insufficiency and nephritis. The pulse in the left radial artery was smaller than that in the right. It differed from the right, also, in number, beating 98 times to the minute, while that of the right side beat 110 times. The other case was also that of an old woman, with paralysis agitans and paralysis of the right leg following an apoplectic stroke. In her case the right pulse was 112 and the left 92. At autopsy the right subclavian artery was found to have a circumference of 19.5 millimeters, while the left measured only 8 millimeters.

Speaking of the value of muscular exercise in cases of cardiac disease, FRAENKEL said that mechanical treatment of heart troubles might be advisable for three reasons: (1) In order to stimulate the heart itself; for example, in cases of neurosis of the heart. (2) To favor a widening of the peripheral vessels; for instance, in arteriosclerosis. (3) In order to reduce the peripheral resistance of the arterial system which occurs, for example, in those persons who grow very stout. The plan recommended by Hirschfeld of reducing below normal the nourishment of a cardiac patient must not be taken as a general rule. In valvular disease and arterio-sclerosis its use ought to be most carefully watched.

LEYDEN called attention to the fact that the term "a weakened heart" is used with two very different meanings. In one class of cases the heart is really weakened, that is, degenerated, as a result of anemia, etc. In such

cases the muscle of the heart has no unusual work to do, but it cannot perform its normal function. In the other class of cases the heart has more work to perform than normal, (valvular disease, arterio-sclerosis) and although its muscle may be intact it fails to perform its extra labor. In the first class of cases digitalis is poorly borne, for under its influence the muscle of the heart is soon weakened still more; in the second class, however, digitalis acts quickly and satisfactorily.

Increased muscular activity in the first class of cases is in order only during convalescence. In the second class it is entirely inapplicable except in so far as it reduces rather than increases the work of the heart. Free and deep breathing is especially important for patients with cardiac disease, and to obtain this the abdominal contents should occupy the least possible space. Hence small meals and laxatives are to be recommended.

SOCIETY PROCEEDINGS.

NORTHWESTERN MEDICAL AND SURGICAL SOCIETY OF NEW YORK.

Meeting Held November 25, 1896.

DR. SENECA D. POWELL made some remarks concerning the use of the Taylor splint in the treatment of fractures of the clavicle, and showed a patient on whom the splint had been used with most satisfactory results. The young man, who had suffered a fracture of the outer third of the clavicle from a bicycle accident, had been in great pain and agony for several hours after the injury, due to the overriding of the fragments and the spasm of the muscles. He experienced complete relief immediately after the application of the splint, and within a few hours was able to go about the same as before the accident.

Dr. Powell demonstrated the use of the splint, showed the manner of its application, and contrasted its utility with that of other forms of dressing for fractured clavicle, and concluded that this was the nearest approach to the ideal dressing.

DISCUSSION.

DR. GREENE said that he thought that this was an ideal splint, and was apparently well adapted to all fractures of the clavicle. He had tried all the other methods, and intended to try this one.

DR. PAGE thought the splint represented the best idea he had ever seen incorporated for such a purpose. He, too, had tried all forms of apparatus, but the trouble with most of them was that they caused pain, and must frequently be removed. He was favorably impressed with the splint and with the demonstration that Dr. Powell had made.

DR. DESSAU remarked that it seemed to him simple and efficacious. He thought that it might cause discomfort on account of the bar in front, but such discomfort would not be any greater than with the other methods which were usually recommended.

It seemed to Dr. Goffe that the prominent feature

which recommended itself to him was that it allowed the patient free use of his arm, and thus contributed materially to its value. Heretofore, he had been satisfied with the Sayre method, but he could see the value of this over Sayre's, at least for some cases.

DR. BULKLEY was also very favorably impressed with the demonstration that Dr. Powell had made, and thought that it would be possible to make use of this apparatus for patients with stooping shoulder.

DR. R. A. MURRAY thought that the splint would not meet all the indications which the ideal dressing for fracture of the clavicle should. Sayre's apparatus, to be sure, frequently allows the occurrence of a slight amount of deformity, although a measurement of a series of normal clavicles, and clavicles that had been fractured, showed that deformity was as common in the first as in the second, and such findings were in keeping with other meas-

FIG. 1.



Application of the Taylor splint for fractured clavicle. Front view.

urements that had been made, such as on the lower extremity of a large number of individuals, in which, not infrequently, a considerable discrepancy in the length was found. He related a case in which Moore's dressing was used most effectively when others had failed. In fact, his experience had led him to favor this dressing above all others. Most dressings for fracture of the clavicle cause chafing and pain. Taylor's splint has the advantage that it does not do this.

DR. JOHN F. ERDMANN said that the excellent result in this case was due to the fact that the line of fracture was near the coracoid process. The splint had been applied to the inner side of this process, and the result was that there was no forward movement in the scapulæ. He was surprised at the amount of displacement which had taken place in this case, as he had never seen overriding

of the fragments to the extent of an inch in fractures at this site. When the bone was fractured in the outer third, he thought that the figure-of-8 dressing would produce quite as good results as the application of this splint would. It did not seem to him that the Taylor splint would be applicable to fractures of the inner third of the clavicle. He related a case which he had recently seen thirty-six hours after the fracture had been produced, in which the pain was very great, but it was quickly relieved by allowing the patient to lie flat upon a hard bed to obtain the aid of gravity in reducing the deformity, and apposition of the fragments was then possible. Good results followed the use of the figure-of-8 bandage. In the case related by Dr. Powell he was a little surprised at the length of time the pain continued after the various dressings cited.

DR. J. BLAKE WHITE, after speaking of the general indications to be fulfilled in the treatment of fracture of the clavicle, agreed with Dr. Erdmann in what he had said about fractures of the inner third of the bone. In the case demonstrated by Dr. Powell, he was struck by the immediate relief that had followed the application of the splint, and the facility with which the splint had kept the shoulder in place. It was a matter of surprise that a device so useful, so easily adapted, and so perfect, had not been adopted heretofore. The entire absence of deformity in the case demonstrated showed its applicability, at least in some cases.

DR. A. M. PHELPS confessed himself pleased with the instrument and the result of its application in the case demonstrated. He remarked that it must not be forgotten that there are very different kinds of fracture of the clavicle. The attachment of the sterno-cleido-mastoid muscle and the attachment and insertion of the subclavius muscle have very much to do with the result that follows fracture of this bone. In fracture of the outer third, near the insertion of the subclavius, the fragments are easily held in place by almost any dressing. In fracture of the inner third, however, the matter is very different, and he did not see how such a splint as the one demonstrated could act upon that favorably. In these latter fractures the shoulder must be raised, and this instrument apparently did not do that. In fracture of the outer third of the clavicle, he thought it was ideal. To his mind, both Moore's and Sayre's dressings were radically wrong, when used without the axillary fulcrum or pad, because they pulled the shoulders together. In fractures of the inner third of the clavicle, the elbows should be pulled back so as to make traction on the fragment through the pectoral muscle; then, with a pad in the axilla, the shoulder was thrown outward. The external and internal fragments of the fractured ends would be coaptated by raising the shoulder. To accomplish this, in both Moore's and Sayre's dressings, a pad should be put in the axilla, and the elbow pressed against the chest and drawn backward and fastened with adhesive plaster. This lengthens the clavicle. Then, if another strip is put under the elbow and over the opposite shoulder, the shoulder is lifted, and the requirements for the treatment of such a fracture will be met. One drawback to the use of the splint

that had been exhibited was that it was not available when one lived remote from the instrument-maker, and it was in these cases that three strips of adhesive plaster and the pad in the axilla became so useful. Everyone knew that in fracture of the clavicle in women it was an esthetic necessity to get a good result, and to please them with comfortable and agreeable dressings. Adhesive plaster often caused some discomfort, and he would recommend for them the dressing demonstrated, with proper modifications for fractures of the sternal end. In using the strips of adhesive plaster, he insisted that they should not be disturbed for four weeks. If it was necessary to apply fresh ones, they should be put on over the old, as often as the fracture was not in perfect coaptation.

DR. HENRY LING TAYLOR described the evolution of the Taylor clavicle splint. The anterior portion was simply the "front piece" of the improved apparatus for

FIG. 2.



Application of the Taylor splint for fractured clavicle. Rear view.

Pott's disease, which was added to the original Taylor brace by its inventor, Dr. C. Fayette Taylor, about the year 1876. Soon afterward the front piece, buckled to a pad at the back, was used by Dr. Taylor as a clavicle splint in several cases, with good results; later it had been used by the speaker, and in a number of cases had worked admirably. Its features were its comfort, efficiency, and the freedom it permitted the patient, who often could use the arm, though it was advisable to wear a sling for a few days. It was different in principle from any clavicle splint with which he was familiar, and was, in effect, as Dr. Powell had said, an artificial clavicle, or rather an artificial shoulder girdle. He could corroborate what Dr. Powell had said as to the ugliness of the fracture in his

son's case, the helplessness of the patient, and the rapidity and completeness of the relief afforded by the application of the splint. The splint, when first applied, seemed too long, but had to be lengthened a couple of inches as the fragments were drawn into place by its application, which threw the shoulders out and back. Whether this splint was applicable to all clavicular fractures, experience would decide.

DR. POWELL, in conclusion, said that it was necessary for him to take exception to two or three remarks that had been made, particularly in reference to the applicability of the splint to fractures of the inner third of the clavicle. In these cases, the displacement was generally of the outer fragment, and not of the inner. It was his belief that the application of the Taylor splint prevented displacement of these fragments, as the splint brought pressure to bear on the anterior portion of the scapula, and on the anterior part of the humerus, directly over its muscular attachments. It protects the outer fragment, and brings it into line with the other part of the fractured segment. Its great advantage is, as he had already pointed out, that it relieves pain, lessens irritation, and allows the patient to get about almost immediately after its application. He was of the opinion that it is as useful for fracture of the inner third as for fracture of the outer third; in fact, fracture in any part of the clavicle.

REVIEWS.

THE PHYSICIAN'S VISITING LIST FOR 1897. Philadelphia: P. Blakiston, Son & Co.

BLAKISTON'S VISITING LIST for 1897, appears in its customary compact and useful form. Physicians using it will find it serves its purposes admirably.

THE PROFESSION OF MEDICINE: ITS STUDY AND PRACTICE; ITS DUTIES AND REWARDS. BY CHARLES WEST, M.D., Fellow and Late Senior Censor of the Royal College of Physicians, etc. London: Kegan, Paul, Trench, Trübner & Co., Ltd., 1896.

AN essay of reminiscence, of counsel, and advice, from one who has trod the path which doctors travel for sixty-three years, is bound to receive a respectful hearing from the members of the profession. And even if the thoughts expressed and the hopes held forth are but those which govern most sensible and honest men, and are largely rhetorical, the fact that a Nestor speaks induces one to incline the ear and silently to hearken to the old man's words of wisdom.

Extended analysis of this little book is not required. Dr. West urges broadness of study, the culture of the arts, and a healthy physique as requisites for a physician. Contrary to our own Holmes, he sees no objection in the young doctor's acquiring reputation as a *litterateur*, or as a musician. The necessary attributes of kindness, sympathy, morality, and honesty are dwelt upon pleasantly, and the aged author sees in the consciousness of work well done ample reward for the trials and rebuffs of practice. No man can be worse, and many will be better, for having read this earnest appeal.